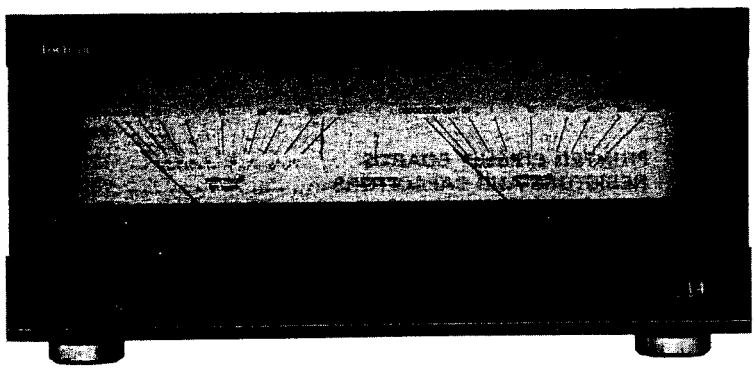
ORDER NO. HAD8601326C9

Service Manual

Amplifier

SE-A100

Stereo Power Amplifier



Color	Areas
(K)	[D] . . . . Continental Europe
(K)	[EW] . . . Switzerland
(K)	[EK] . . . United Kingdom
(K)	[XL] . . . Australia
(K)	[EGA] . . F.R. Germany
(K)	[EB] . . . Belgium
(K)	[EH] . . . Holland
(K)	[EF] . . . France
(K)	[Ei] . . . . Italy
(K)	[XA] . . . Asia, Oceania, Africa, Middle Near East and Latin America
(K)	[PA] . . . Far East PX
(K)	[PE] . . . European Military

Color

(K) . . . Black Type

SPECIFICATIONS (DIN 45 500)

■ AMPLIFIER SECTION

20 Hz–20 kHz continuous power output
both channels driven 2 × 240W (4Ω)
2 × 170W (8Ω)

40 Hz–16 kHz continuous power output
both channels driven 2 × 240W (4Ω)
2 × 170W (8Ω)

1 kHz continuous power output
both channels driven 2 × 260W (4Ω)
2 × 180W (8Ω)

Total harmonic distortion
rated power at 20 Hz–20 kHz 0.002% (4Ω)
0.0007% (8Ω)
rated power at 40 Hz–16 kHz 0.002% (4Ω)
0.0007% (8Ω)
rated power at 1 kHz 0.0004% (4Ω)
unmeasurably small, less than 0.0002% (8Ω)
half power at 20 Hz–20 kHz 0.0007% (8Ω)
half power at 1 kHz
unmeasurably small, less than 0.0002% (8Ω)
–26 dB power at 1 kHz 0.001% (4Ω)
50 mW power at 1 kHz 0.003% (4Ω)

Intermodulation distortion
rated power at 250 Hz: 8 kHz=4:1, 4Ω 0.002%
rated power at 60 Hz: 7 kHz=4:1, SMPTE, 8Ω 0.002%

TIM (Transient Intermodulation Distortion)
unmeasurably small

Power bandwidth
both channels driven, –3 dB (T.H.D. 0.01%)
5 Hz–100 kHz (8Ω)

Residual hum and noise 0.3 mV

Damping factor 50 (4Ω), 100 (8Ω)

Input sensitivity and impedance 1.0 V/47kΩ

S/N 110 dB (120 dB, IHF, A)

Frequency response
20 Hz–20 kHz, +0 dB, –0.1 dB
0.8 Hz–150 kHz, +0 dB, –3 dB

Channel balance, 250 Hz–6,300 Hz 0.5 dB

Channel separation, 1 kHz 60 dB

Headphones output level and impedance 870 mV/330Ω

Load impedance
MAIN or REMOTE 4Ω–16Ω
MAIN and REMOTE 8Ω–16Ω

Meter
reading range 0.0001 W–300 W (8Ω)
–60 dB–+2 dB
(logarithmic compression)
frequency response (reading accuracy)
±3 dB (more than –40 dB)
±5 dB (less than –40 dB)
attack time 100 μsec.
recovery time (0 dB → –20 dB) 300 msec.

Technics

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P.O. Box 288, Central Osaka Japan

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Matsushita Electric Trading Co., Ltd.
6th Floor, World Trade Center Bldg.,
No. 4-1, Hamamatsu-chō 2-Chome,
Minato-ku, Tokyo 105, Japan

■ GENERAL

Power consumption	1350W
Power supply	AC 50 Hz/60 Hz, 110V/127V/220V/240V
Dimensions (W×H×D)	430 × 209 × 475 mm
Weight	31.2 kg

Notes:

Total harmonic distortion is measured by the digital spectrum analyzer (H.P. 3045 system).

Specifications are subject to change without notice.

Weight and dimensions are approximate.

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■ SAFETY PRECAUTION

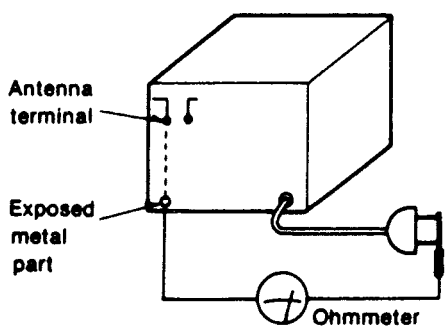
(This "safety precaution" is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

• INSULATION RESISTANCE TEST

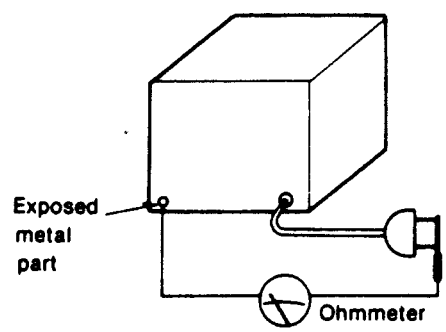
1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3MΩ and 5.2MΩ to all exposed parts. (Fig. A) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

Note: Some exposed parts may be isolated from the chassis by design. These will read infinity.



(Fig. A)

Resistance = 3MΩ—5.2MΩ



(Fig. B)

Resistance = Approx ∞

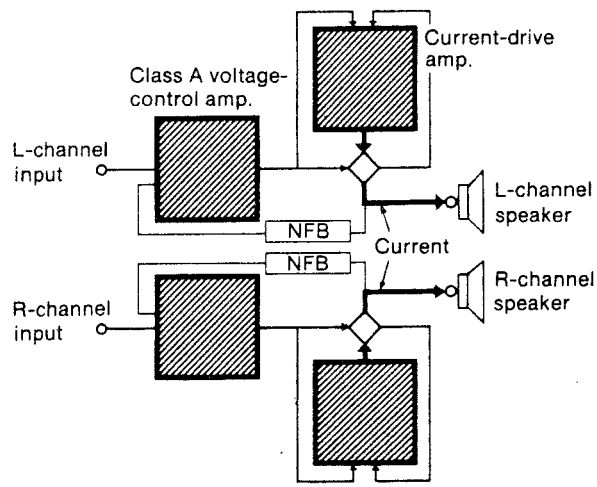
4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

FEATURE

The assigned mission of the power amplifier is to see that the speaker systems are driven exactly according to the input signals. This may seem simple, but in reality is all the more difficult for its seeming simplicity.
Moreover, this assignment has no real meaning unless it can be accomplished when sharp level fluctuations and various frequency components included in music signals are reproduced by speakers with various unstable elements.
Technics has cleared up these problems through the application of its vast technological resources and its new concepts.
The amazing answer is the class AA SE-A100 amplifier with its pure class A sound and its overwhelming speaker drive capacity.

VC4 amplifier composition. class AA equipped.

This unit has the VC4 amplifier composition ... with voltage-control amplification, class A operation in which the problems of switching distortion and crossover distortion are finally a thing of the past, plus current-drive amplification to supply the current necessary for dynamic drive of the connected speaker systems.
Thus, the voltage-control amplifier is freed of the burden of current supply, leaving it free to supply voltage faithful to incoming signals.
The characteristic of the amplification element is therefore displayed at its finest, and distortion is so low as to be virtually unmeasurable, even by highly precise instruments.
The current-drive amplifier is, on the other hand, free to supply all the current needed for speaker drive. Impedance fluctuations, phase shifts and reverse electromotive forces at every frequency point have no effect, all having been removed in order to assure a clear and stirring sound filled with high-fidelity power under any condition.



VC4 amplifier composition

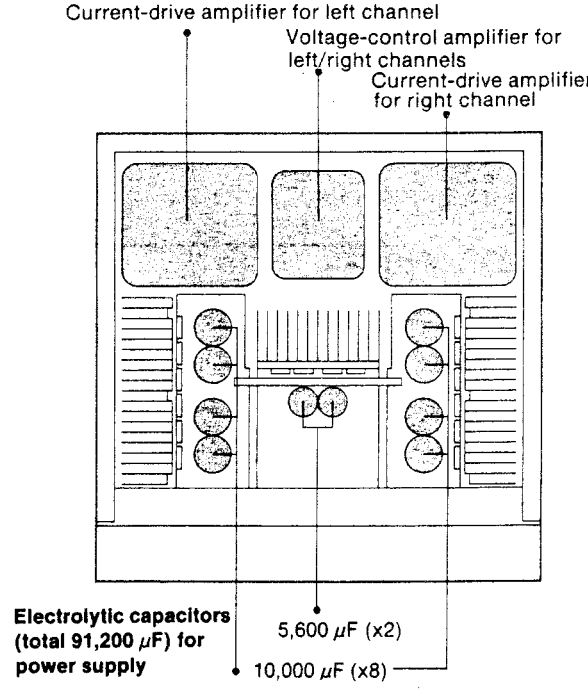
170W + 170W/0.0007% ... truly high performance

The high class AA performance is plainly expressed by the specs: high power of 170W + 170W (20 Hz ~ 20 kHz, 8Ω), and low distortion of 0.0007% (20 Hz ~ 20 kHz, 8Ω), an unrivalled rating that tells it all.
The dynamism of music can freely express itself until the whole body vibrates ... and the subtle nuances of music are expressed until covered by reverberations.

Luxuriously furnished as only the finest amplifiers would be

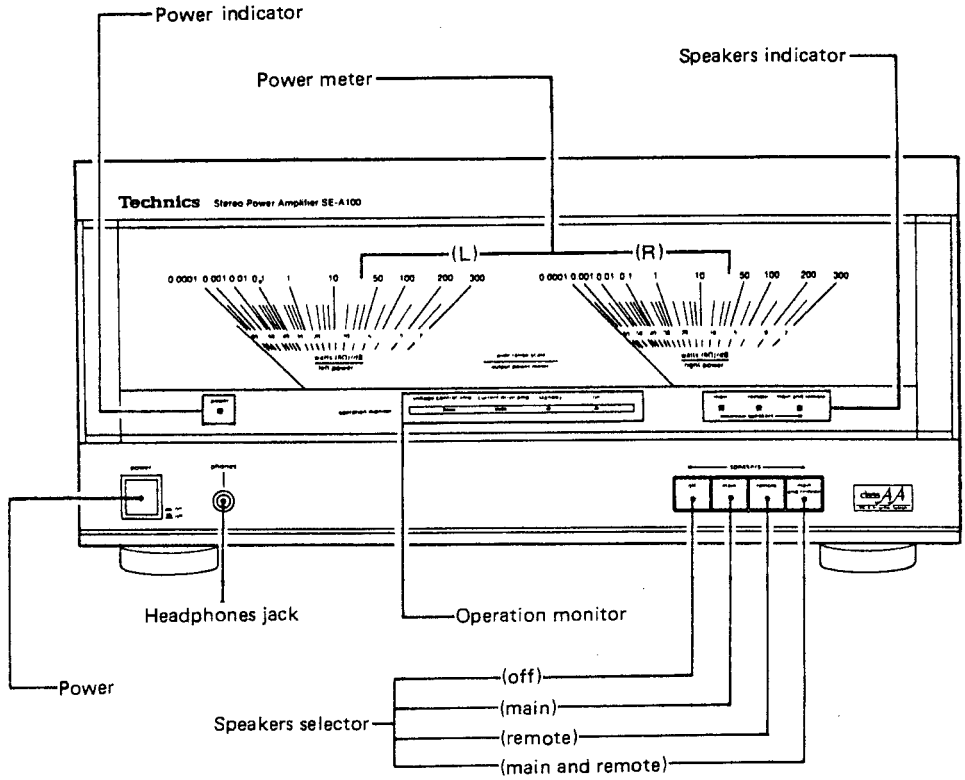
Beginning with the highly precise, large power meter traditional to Technics power amplifiers, and continuing with such features as the powerful power supply which uses three large transformers and high-capacity electrolytic capacitors, the LC-OFC internal wiring material, the gold clad contact relays for electronic speaker switching, and the heavy top panel for minimizing magnetic radiation and mechanical vibration ... every part of every circuit has been made to the finest possible specifications to make this the finest and most luxurious power amplifier you could want.

Three transformers

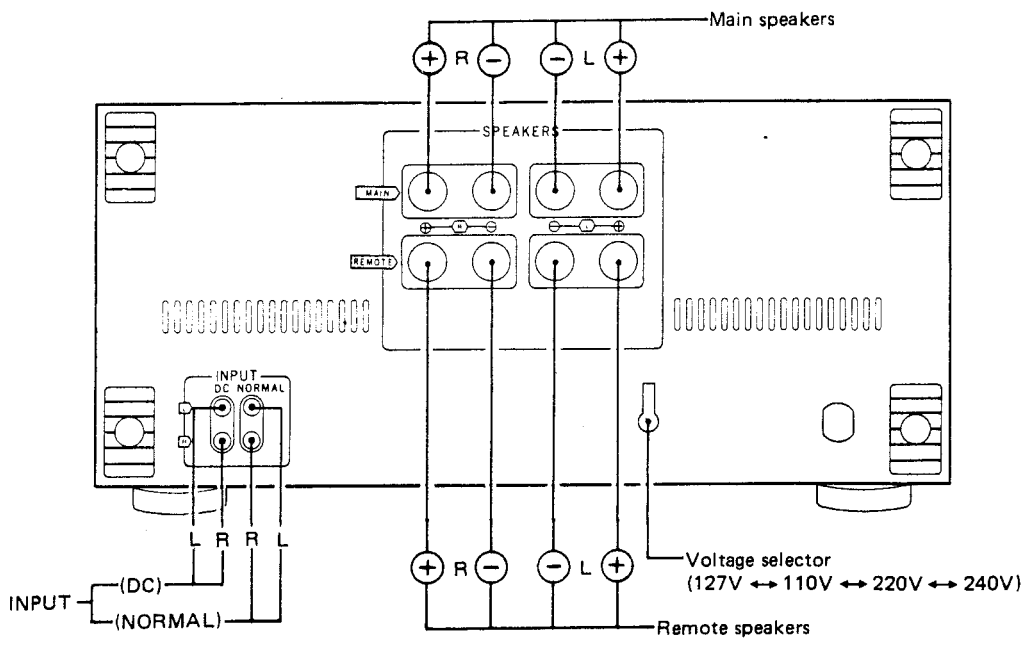

Current-drive amplifier for left channel
Voltage-control amplifier for left/right channels
Current-drive amplifier for right channel
Electrolytic capacitors (total 91,200 μF) for power supply
5,600 μF (x2)
10,000 μF (x8)

SE-A100 internal construction

■ LOCATION OF CONTROLS

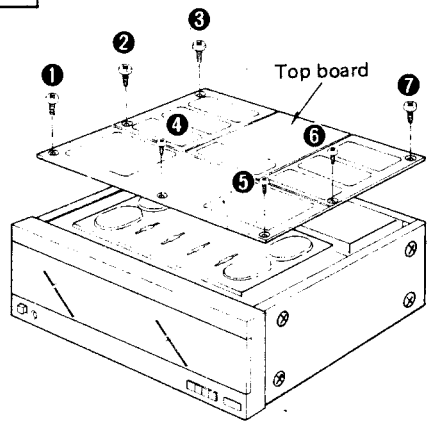


- If only the main or the remote speaker system is used (4 ~ 16Ω)
- If both the main and remote speaker system are used (8 ~ 16Ω)

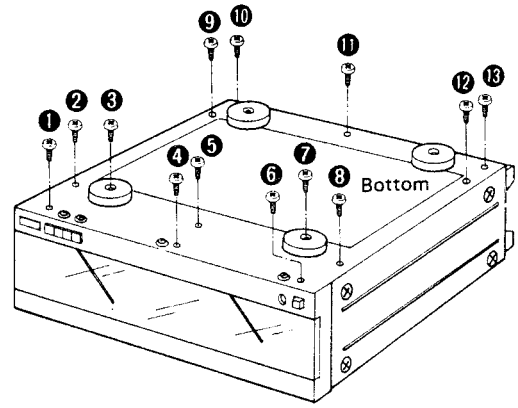


■ DISASSEMBLY INSTRUCTIONS

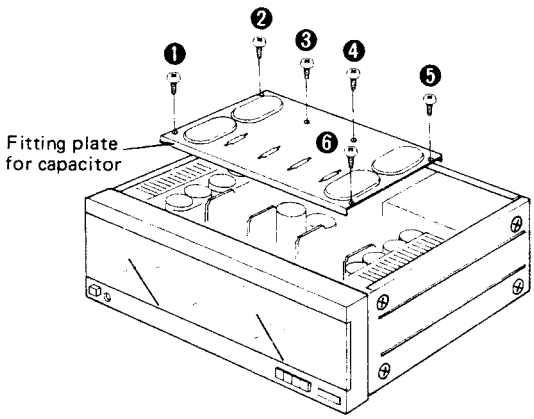
Ref. No. 1	How to remove the top board
Procedure 1	• Remove the 7 setscrews (❶ ~ ❼).



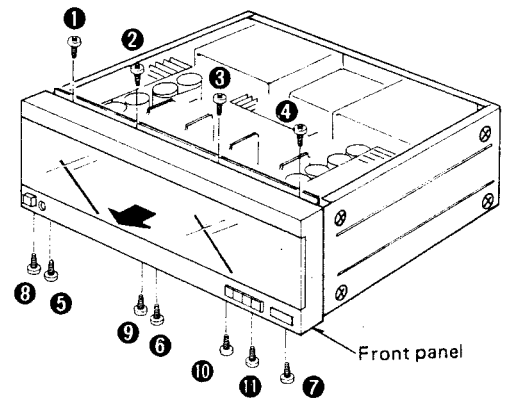
Ref. No. 2	How to remove the bottom board
Procedure 1 →2	• Remove the 13 screws (❶ ~ ⓭).



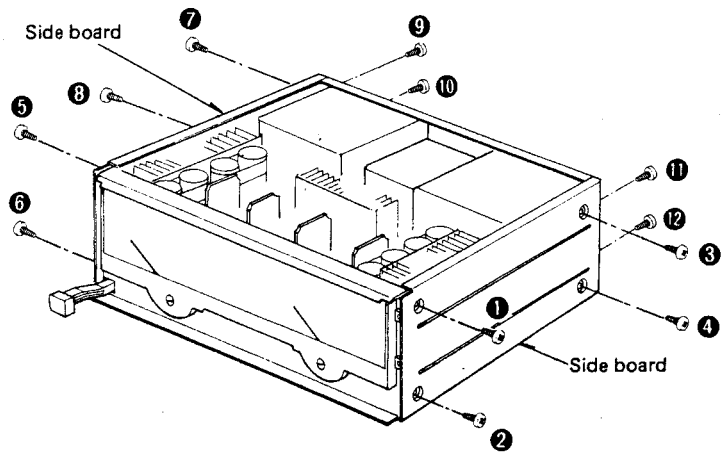
Ref. No. 3	How to remove the fitting plate for capacitor
Procedure 1 →2 →3	• Remove the 6 screws (❶ ~ ❻).

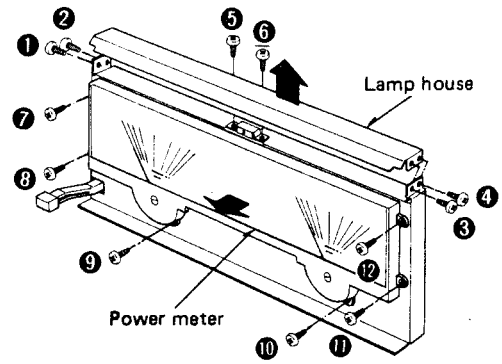


Ref. No. 4	How to remove the front panel
Procedure 1 →4	1. Remove the 11 screws (❶ ~ ⓫). 2. Remove the front panel.

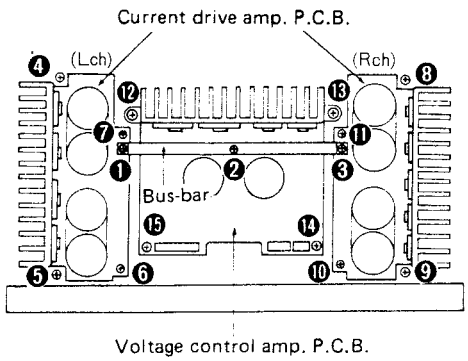


Ref. No. 5	How to remove the side board, lamp house and power meter
Procedure 1 →4 →5	1. Remove the 4 screws (❶ ~ ⓬). 2. Remove the 4 screws.(❶ ~ ❹). 3. Remove the lamp house. 4. Remove the 8 screws.(❺ ~ ⓬). 5. Remove the power meter.

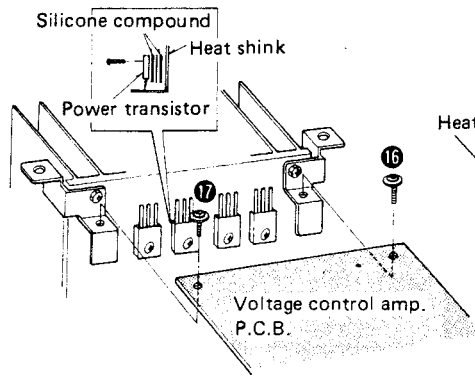




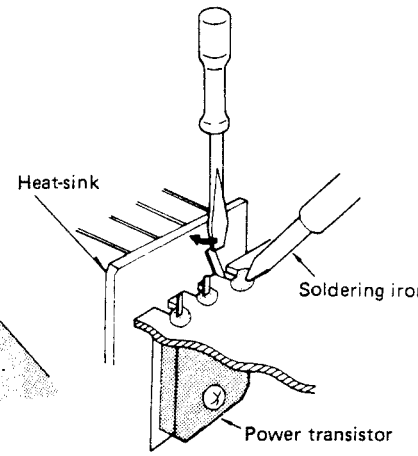
Ref. No. 6	How to remove the power transistor, voltage control amp. P.C.B. and current drive amp. P.C.B.
Procedure 1 →6	1. Remove the 3 screws. (❶ ~ ❸) 2. Remove the bus-bar. 3. Remove the 12 screws. (❹ ~ ⓯) 4. Remove the voltage control amp. block. and current drive amp. block. [Fig. 1] 5. Un solder the power transistor. [Fig. 3] 6. Remove the 2 screws. (⓰ ~ ⓱) 7. Remove the voltage control amp. P.C.B. 8. When mounting the power transistor apply silicone compound (SZZ0L15) to the rear side of power transistor.



[Fig. 1]



[Fig. 2]



[Fig. 3]

Note: When you check up with the bus bar disconnected, first connect ❶ , ❷ and ❸ to the ground point and turn on the machine.

■ BEFORE REPAIR AND ADJUSTMENT

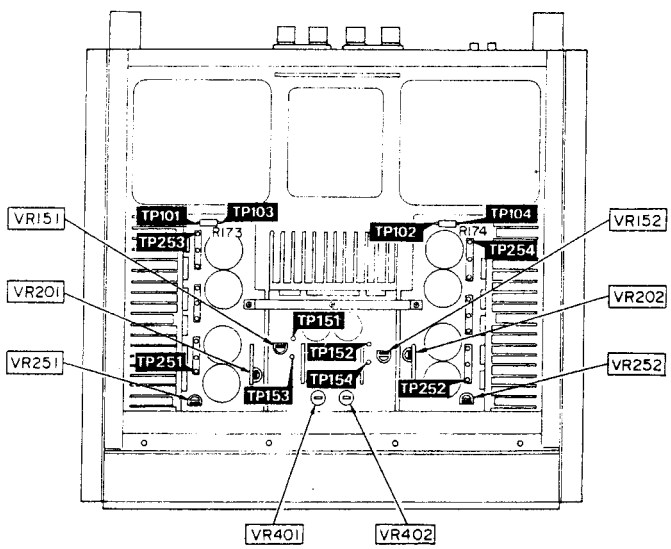
(1) Turn off the power supply. Using a 10Ω, 10W resistor, shortcircuit both ends of power supply capacitors (C301~C308, 10,000μF, C309, C310, 5600μF) in order to discharge the voltage.

(2) Before turning the power supply on, after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50/60Hz in NO SIGNAL mode should be shown below with respect to supply voltage 110V/127V/220V/240V.

Power supply voltage	AC 110V	AC 127V	AC 220V	AC 240V
Consumed current 50/60Hz	0.5~1.4A	0.4~1.1A	0.3~0.7A	0.2~0.6A

■ MEASUREMENTS AND ADJUSTMENTS

- **Adjustment points**



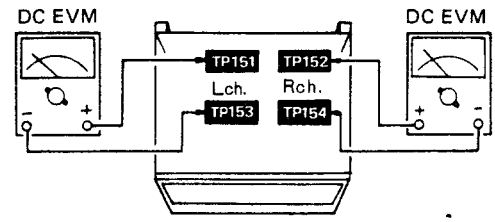
Adj. points	Adjustment
TP151, 153	Lch ICQ adj. of voltage control amp.
VR151	
TP152, 154	Rch ICQ adj. of voltage control amp.
VR152	
TP251, 253	Lch ICQ adj. of current drive amp.
VR251	
TP252, 254	Rch ICQ adj. of current drive amp.
VR252	
TP101, 103	Lch bridge-balance adj.
VR201	
TP102, 104	Rch bridge-balance adj.
VR202	
VR401	Lch power meter adj.
VR402	Rch power meter adj.

Equipment used

- AC and DC electronic voltmeter (EVM)
- Audio frequency oscillator (AF OSC)
- Dummy resistor or speaker (8Ω, 100W)

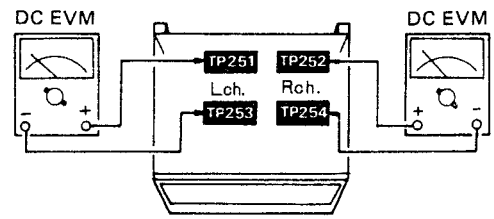
VOLTAGE CONTROL (V) AMP. IDLING (ICQ) ADJUSTMENT

1. Test equipment connection is shown in figure. (Connect the DC EVM. on both channels.)
2. Completely turn the (V) amp. adjusting volumes (**VR151, VR152**) counter-clockwise.
3. Turn ON the set when it is cold, and 30 sec. later, adjust **VR151** and **VR152** so that the voltage is **3mV**. Also, check that the voltage is **10 – 18mV** (standard: **12mV**) after lapse of **10 – 15 minutes.** (Below **50mV** after lapse of **60 min.**)



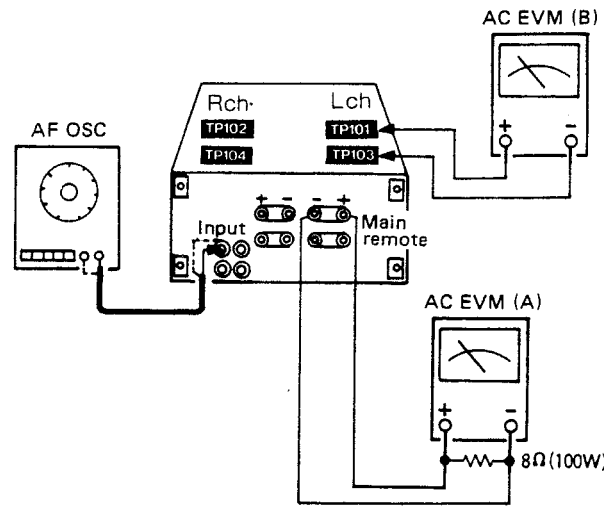
CURRENT DRIVE (C) AMP. IDLING (ICQ) ADJUSTMENT

1. Test equipment connection is shown in figure. (Connect the DC EVM. on both channels.)
2. Completely turn the (C) amp. adjusting volumes (**VR251, VR252**) counterclockwise.
3. Turn ON the set when it is cold, and 30 sec. later, adjust **VR251** and **VR252** so that the voltage is **0.7mV**.
   Also, check that the voltage is **2 – 4mV** (standard: **2.5mV**) after lapse of **10 – 15 minutes.** (Below **20mA** after lapse of **60 min.**)



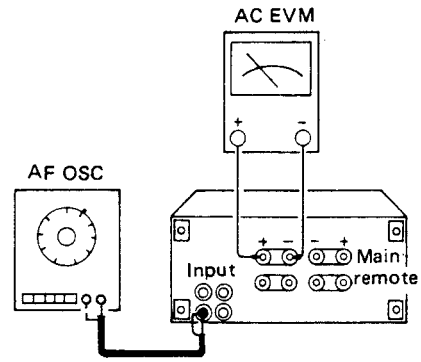
BRIDGE-BALANCE ADJUSTMENT

1. Test equipment connection is shown in figure.
2. Turn the **VR201** (Lch) and **VR202** (Rch) to the central positions before turning ON the set.
3. Apply 1kHz signal to the input terminal so that the output voltage of speaker terminal is **10V .**(It can be chenged by the attenuator of the AF OSC)
4. Adjust **VR201** so that the voltage is minimum in the 3mV range of AC EVM (B).
5. Also for **R** channel, change the connection and make the same adjustment by **VR202.**



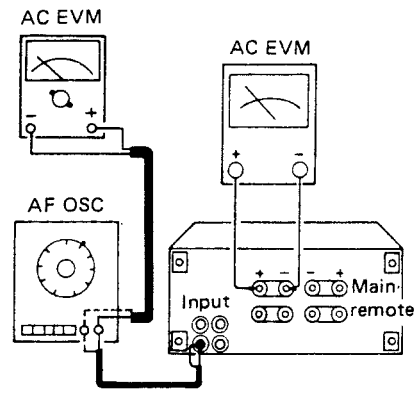
POWER METER ADJUSTMENT

1. Test equipment connection is shown in figure.
2. Turn the **VR401** (Lch) and **VR402** (Rch) to the central positions before turning **ON** the set.
3. Before adjusting make sure that the power meter is mechanically adjusted to **0** point.
4. Apply 1kHz signal to the input terminal so that the output voltage of speaker terminal is **28.3V** (It can be changed by the attenuator of the AF OSC.)
5. Adjust the **VR401** (Lch) and **VR402** (Rch) so that the power meter indicates **100W.**



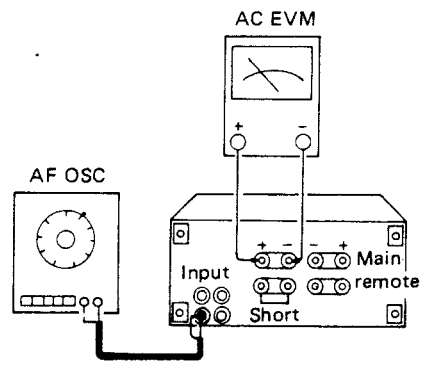
CHECK OF MUTING CIRCUIT DURING POWER "ON" – "OFF" OPERATION

1. Test equipment connection is shown in figure.
2. Apply **1kHz, 0.5V** signal to the input terminal.
3. Check that the output is given **7 – 8.5 sec.** after power **ON,** and that the output goes out immediately with power **OFF.**



CHECK OF OVERLOAD DETECTION AND PROTECTION CIRCUIT

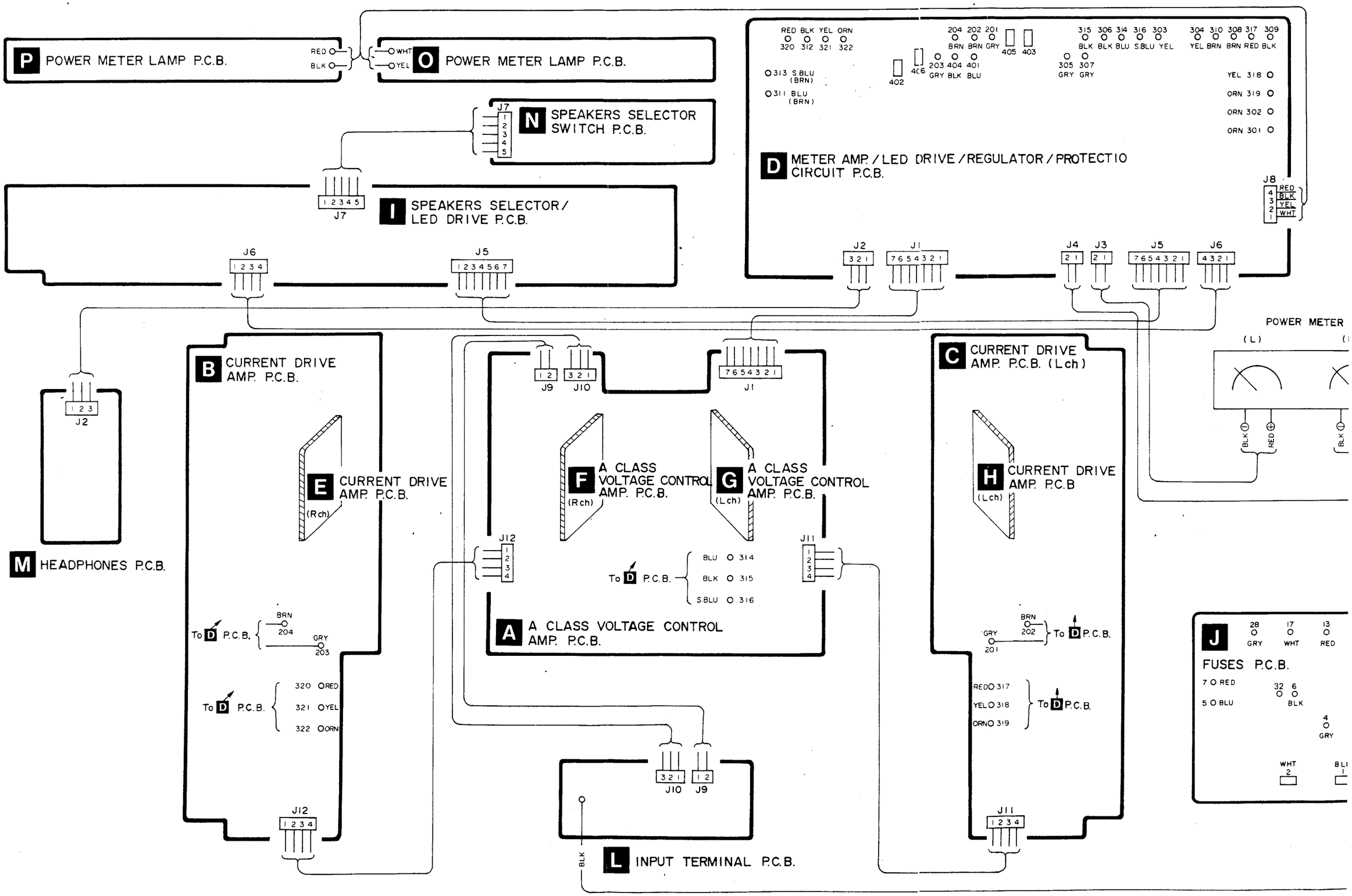
1. Test equipment connection is shown in figure.
2. Set the speaker select switch to **"main"**.
3. Short-circuit the speaker terminals on the **"remote"** side.
4. Apply 1kHz signal to the input terminal so that the output voltage of speaker terminal is **1.2V.**
   (It can be changed by the attenuator of the AF OSC.)
5. Check that the relay turns off and the output stops when the speaker select switch is shifted to **"remote",** and that the condition is held even with the speaker select switch is set to **"OFF".**
6. Perform the same check on **L** channel.



Note

* Check the protection circuit separately on each of the channels.
* The protection relay, if operated, will not reset itself. So, turn off the power supply and again turn it on.
* When the protection circuit is in operation, the indicator "stand by" is blinking.

■ CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM



P.C.B.

ERS SELECTOR
H P.C.B.

RED BLK YEL ORN
320 312 321 322

313 S.BLU (BRN)

311 BLU (BRN)

402 406 203 404 401
GRY BLK BLU

204 202 201
BRN BRN GRY
405 403

315 306 314 316 303
BLK BLK BLU S.BLU YEL

305 307
GRY GRY

304 310 308 317 309
YEL BRN BRN RED BLK

YEL 318
ORN 319
ORN 302
ORN 301

D METER AMP. / LED DRIVE / REGULATOR / PROTECTIO CIRCUIT P.C.B.

J8 4 RED 3 BLK 2 YEL 1 WHT

J2 3 2 1
J1 7 6 5 4 3 2 1
J4 2 1
J3 2 1
J5 7 6 5 4 3 2 1
J6 4 3 2 1

POWER METER
(L) (R)
BLK ⊖ RED ⊕ BLK ⊖ RED ⊕

C CURRENT DRIVE AMP. P.C.B. (Lch)

7 6 5 4 3 2 1
J1

A CLASS VOLTAGE CONTROL AMP. P.C.B.

G A CLASS VOLTAGE CONTROL AMP. P.C.B. (Lch)

H CURRENT DRIVE AMP. P.C.B (Lch)

To **D** P.C.B. — BLU 314, BLK 315, S.BLU 316

J11 1 2 3 4

VOLTAGE CONTROL

BRN 202, GRY 201 — To **D** P.C.B.

RED 317, YEL 318, ORN 319 — To **D** P.C.B.

J11 1 2 3 4

J FUSES P.C.B.

28 GRY, 17 WHT, 13 RED, 16 ORN, 23 WHT, 22 GRY
7 RED
5 BLU
32 6 BLK
12 30 RED
24 BRN, 21 ORN
4 GRY, 3 BRN
20, 14 GRY, 27, 18 BRN, S.BLU 55, 19 S.BLU 29, 26
RED 8, RED 9, RED 10, RED 11, BLU 25, 31
WHT 2, BLK 1

BLK

J10 3 2 1, J9 1 2

L INPUT TERMINAL P.C.B.

K SPEAKER TERMINAL P.C.B.

403 405 406 402

To **D** P.C.B.

Q RUSH VOLTAGE PROTECTION P.C.B.

308 BRN, 310 GRY, 311 BLU, 313 S.BLU
331 BRN, 332 BRN, 333 BRN, 334 BRN

FOR CURRENT DRIVE AMP. POWER TRANSFORMER

To **J** P.C.B.

To **J** P.C.B. — 11 RED, 12 (SHORT) RED
To **Q** P.C.B. — 331 BRN, 332 BRN
To **D** P.C.B. — 309 BLK

WHT 23, BRN 24, BLU 25, ORN 27, GRY 28

29 32 20 31 30 26 J100

R VOLTAGE SELECTOR P.C.B.

To **J** P.C.B.

To **D** P.C.B. — 301 ORN, 302 ORN, 303 YEL, 304 YEL, 305 GRY, 307 GRY, 306 BLK

FOR VOLTAGE CONTROL AMP. POWER TRANSFORMER

To **J** P.C.B.

RED 13, GRY 14, RED 7, RED 8, S.BLU 15, ORN 16

FOR CURRENT DRIVE AMP. POWER TRANSFORMER

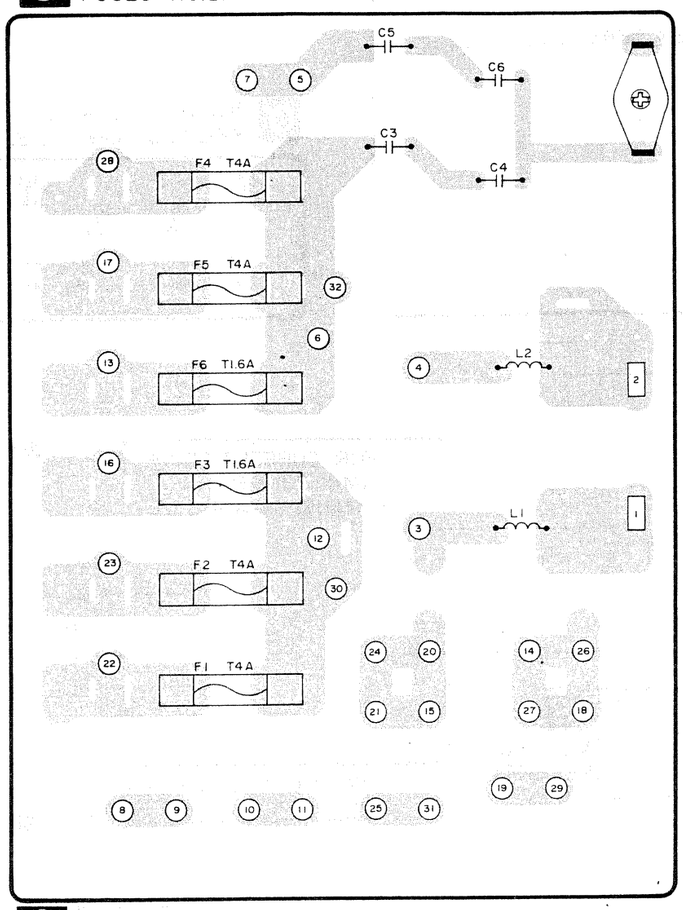
To **J** P.C.B.

To **J** P.C.B. — 9 RED, 10 (SHORT) RED
To **Q** P.C.B. — 311 BRN, 313 BRN
To **D** P.C.B. — 312 BLK

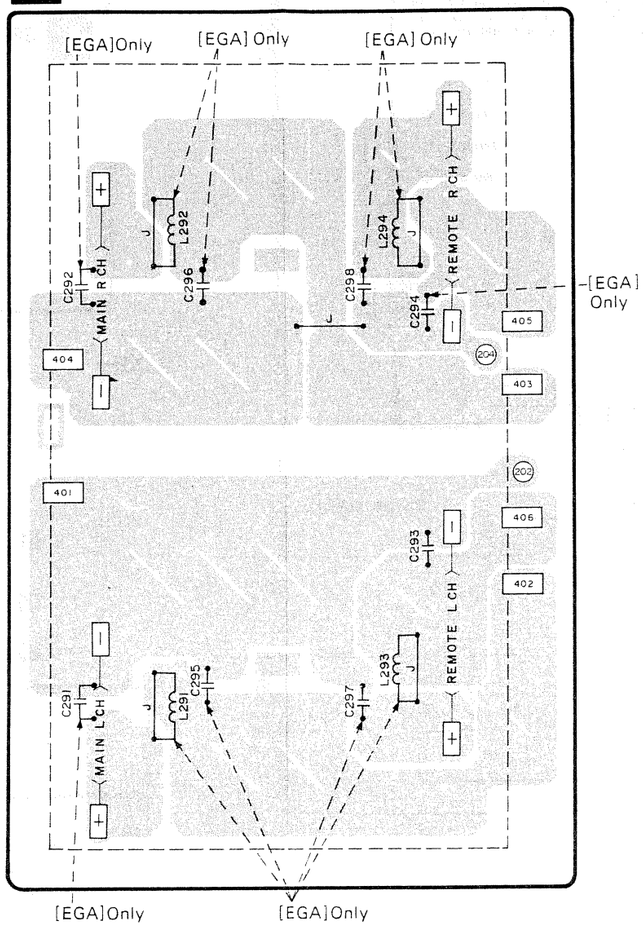
WHT 17, BRN 18, BLU 19, ORN 21, GRY 22

■ PRINTED CIRCUIT BOARDS

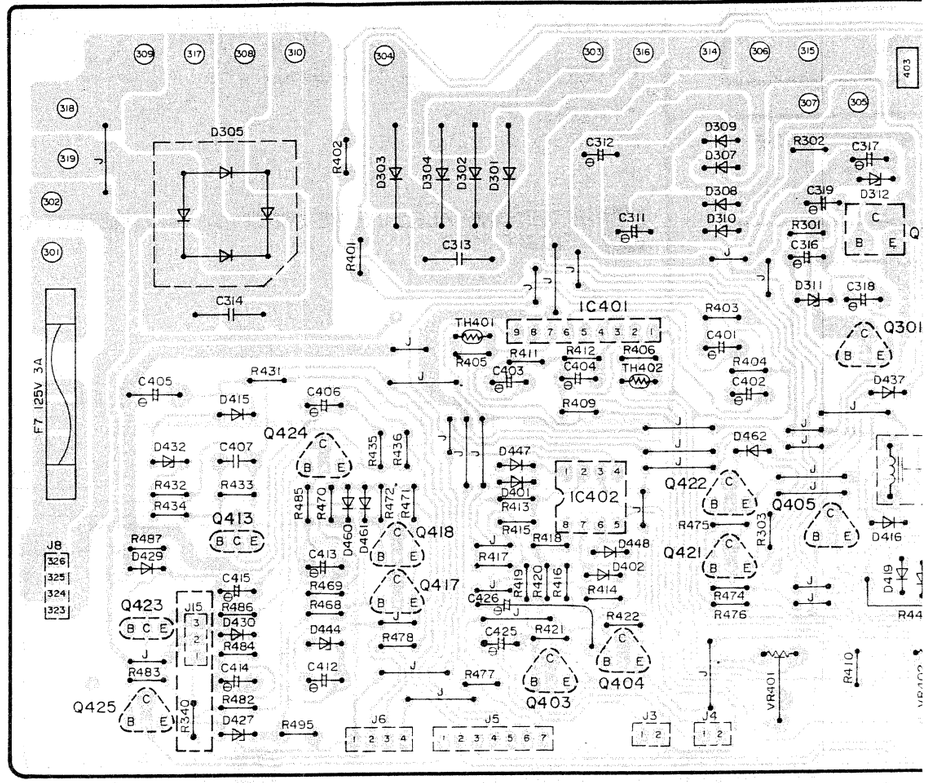
J FUSES P.C.B.



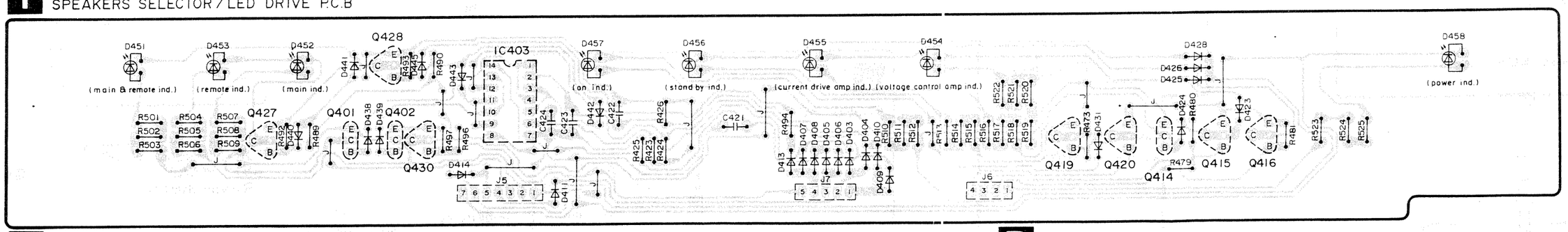
K SPEAKER TERMINAL P.C.B



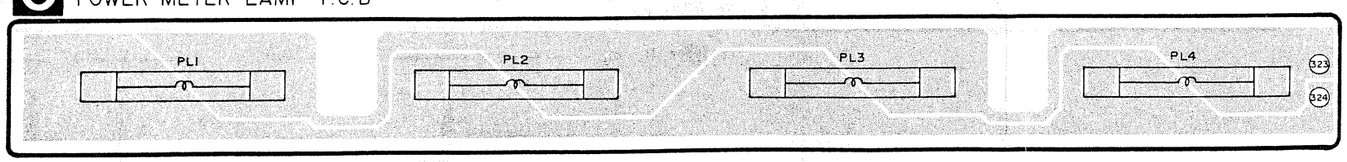
D METER AMP / LED DRIVE / REGULATOR / PROTECTION CIRCUIT P.C.B.



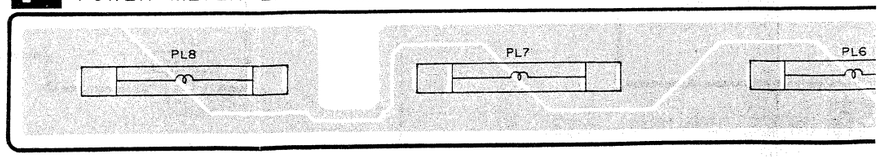
I SPEAKERS SELECTOR / LED DRIVE P.C.B



O POWER METER LAMP P.C.B

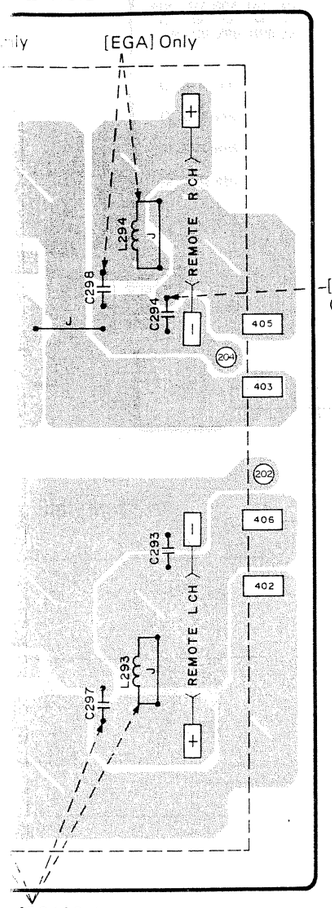


P POWER METER LAMP P.C.B

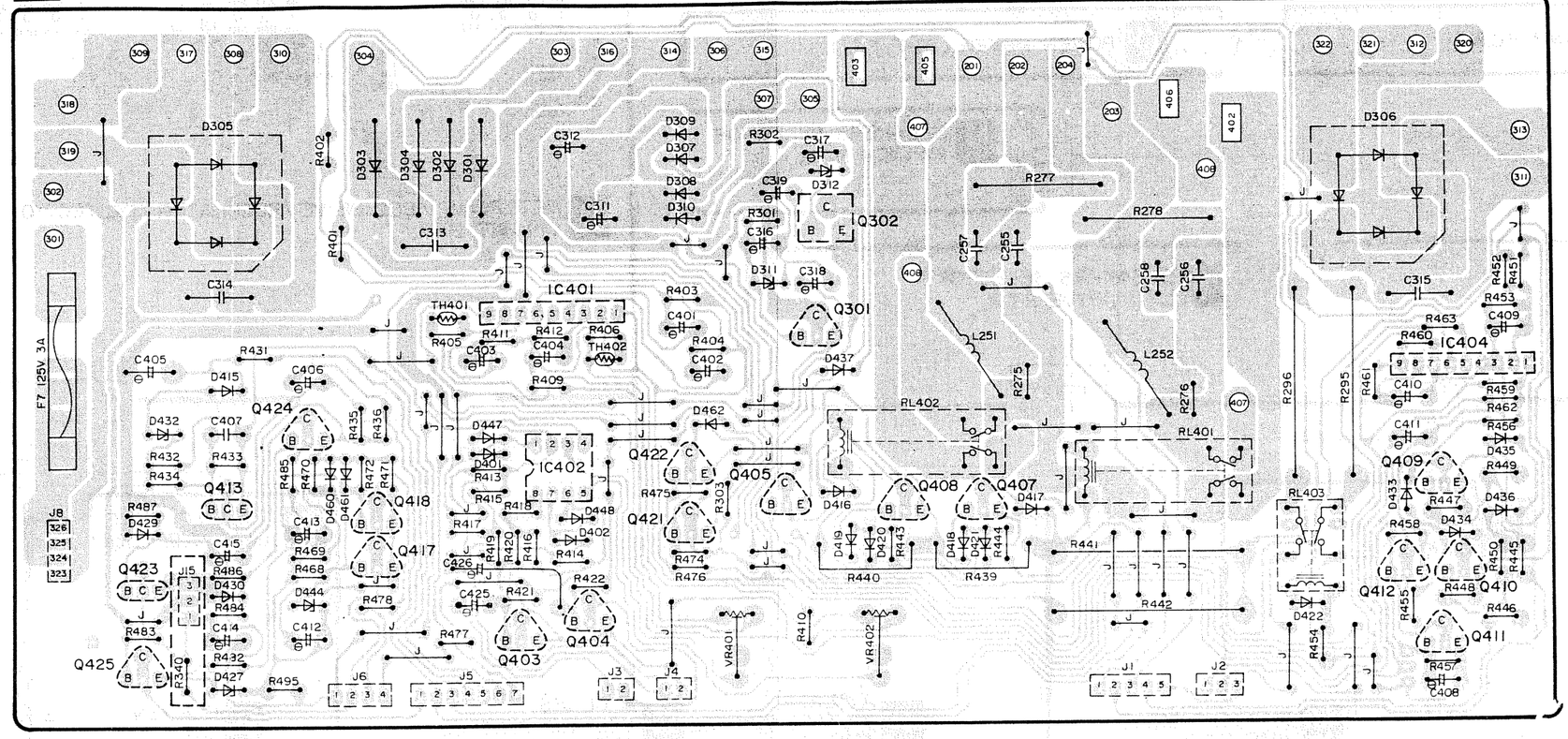


6 7 8 9 10 11 12 13 14

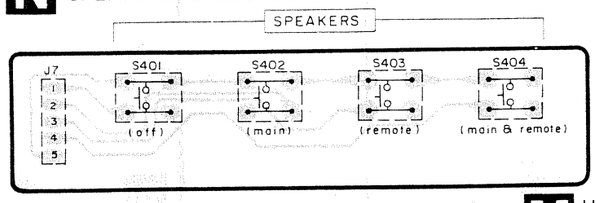
AL P.C.B



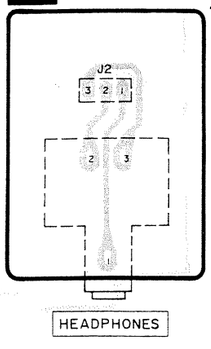
D METER AMP. / LED DRIVE / REGULATOR / PROTECTION CIRCUIT P.C.B.

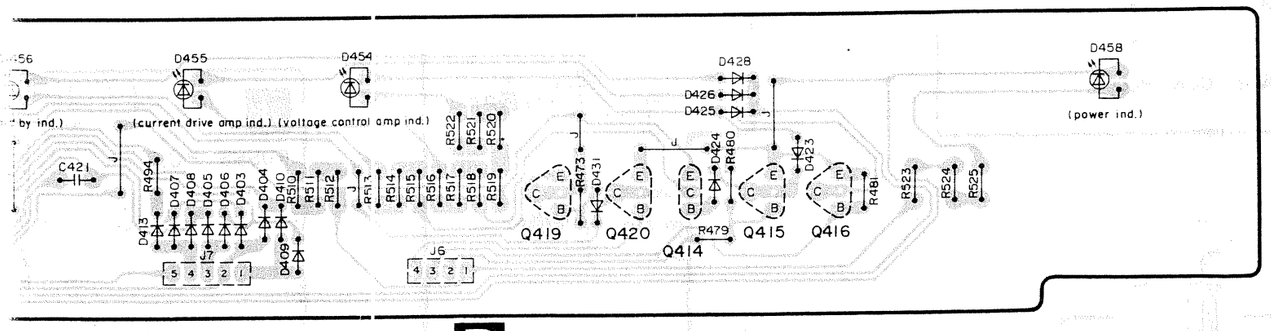


N SPEAKERS SELECTOR SWITCH P.C.B.

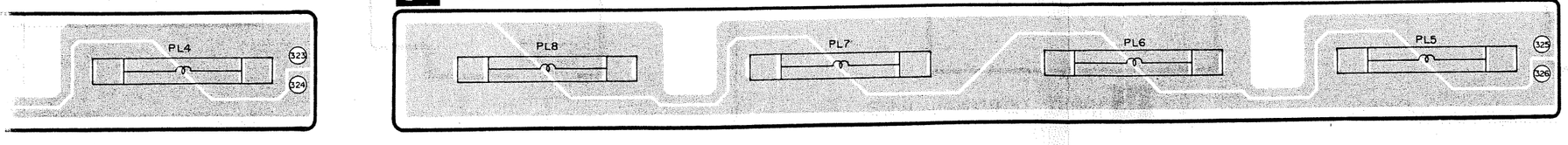


M HEADPHONES P.C.B.



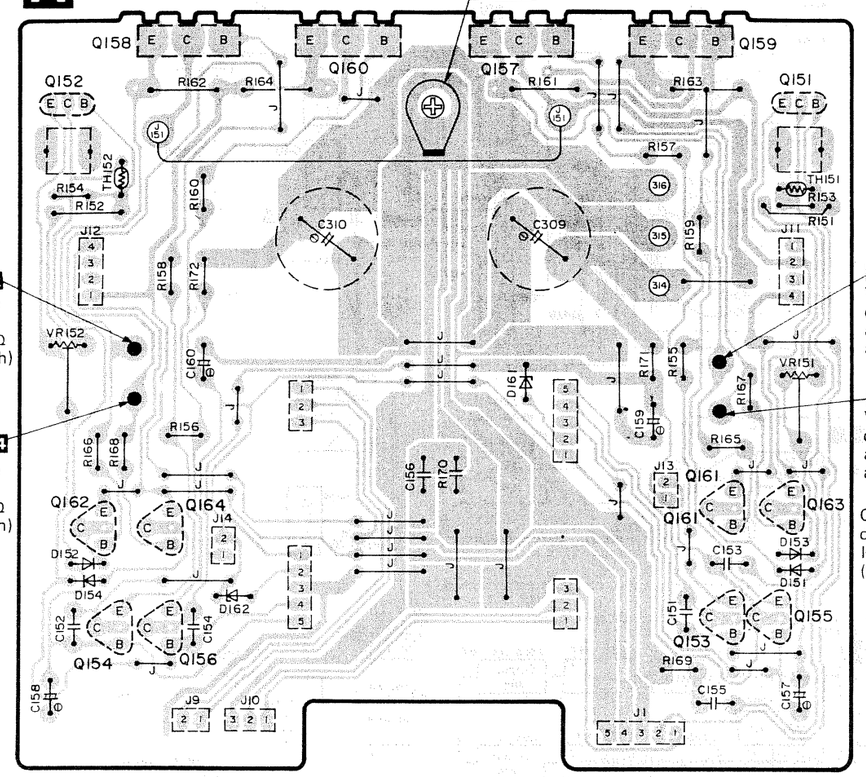


P POWER METER LAMP P.C.B

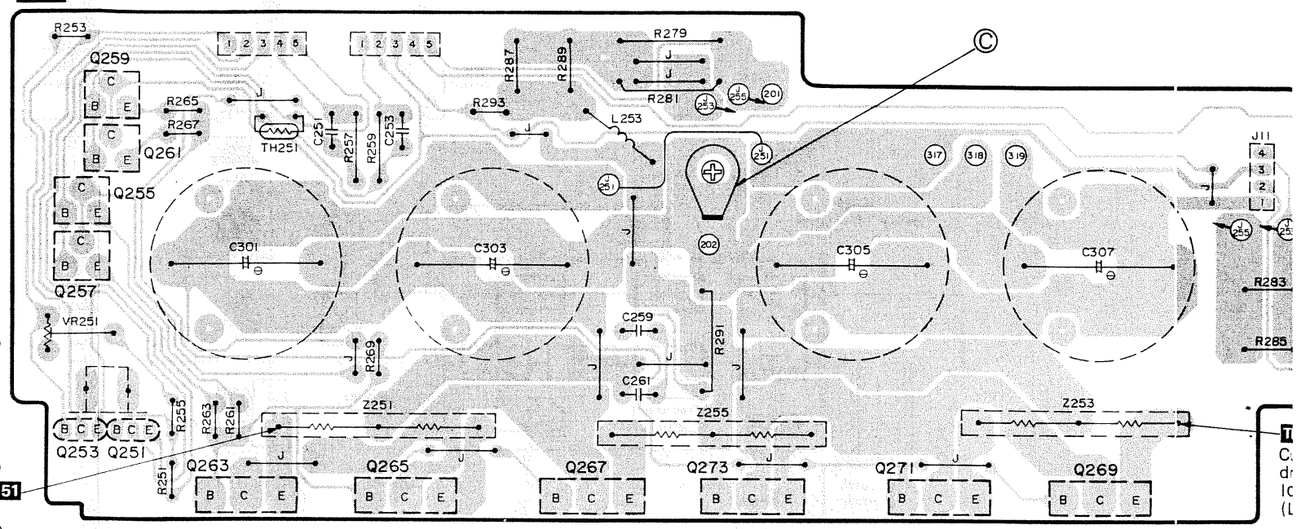


15 16 17 18 19 20 21 22 23

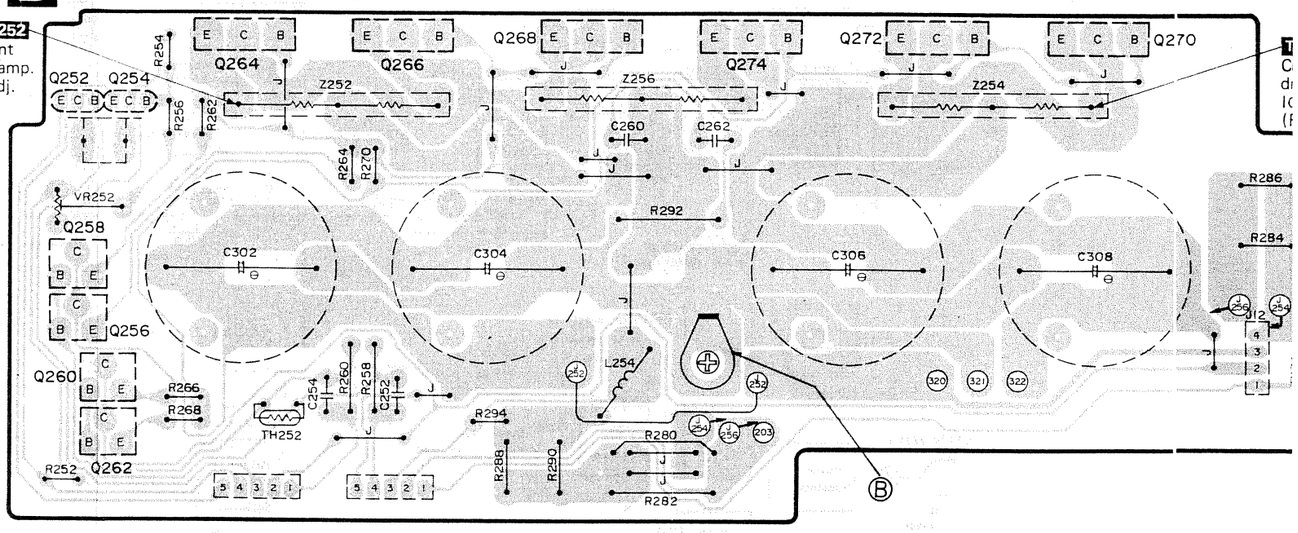
A A CLASS VOLTAGE CONTROL AMP. P.C.B


Q158 Q160 Q157 Q159 Q152 Q151
R162 R164 R161 R163 R157 R159 R153 R151 R154 R152 R160 R158 R172
TH152 TH151
C310 C309
J12 J11
VR152 VR151
C160 C159 C161 C156 R170
D161 R171 R155 R167 R165 R156 R166 R168
Q162 Q164 Q161 Q163 Q153 Q155 Q154 Q156
J13 J14 J9 J10 J1
D152 D154 D162 D153 D151
C152 C154 C151 C153 C155 C157 C158 R169
TP152 Voltage control amp.ICQ adj.(Rch)
TP154 Voltage control amp.ICQ adj.(Rch)
TP151 Voltage control amp.ICQ adj.(Lch)
TP153 Voltage control amp.ICQ adj.(Lch)
TP251 Current drive amp. ICQ adj. (Lch)

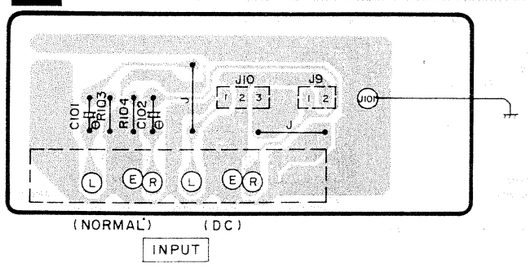
C CURRENT DRIVE AMP. P.C.B.



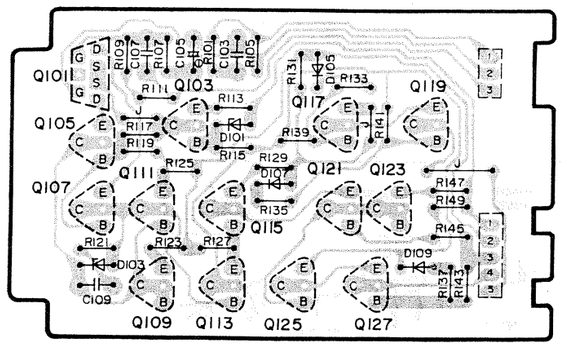
B CURRENT DRIVE AMP. P.C.B.



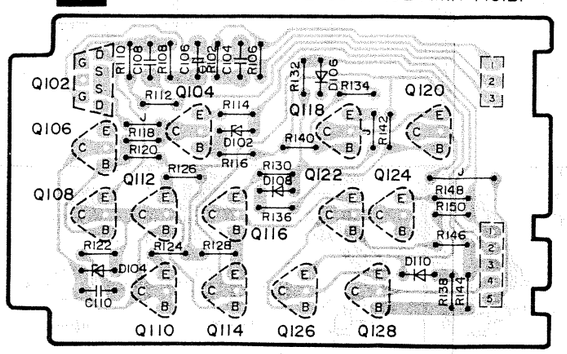
L INPUT TERMINAL P.C.B



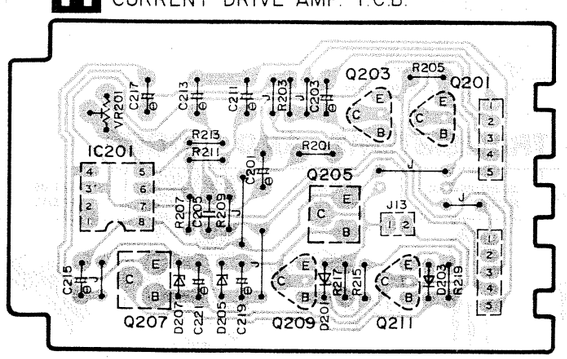
G A CLASS VOLTAGE CONTROL AMP. P.C.B.



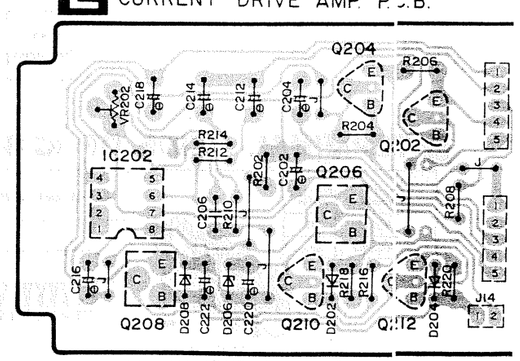
F A CLASS VOLTAGE CONTROL AMP P.C.B.



H CURRENT DRIVE AMP. P.C.B.

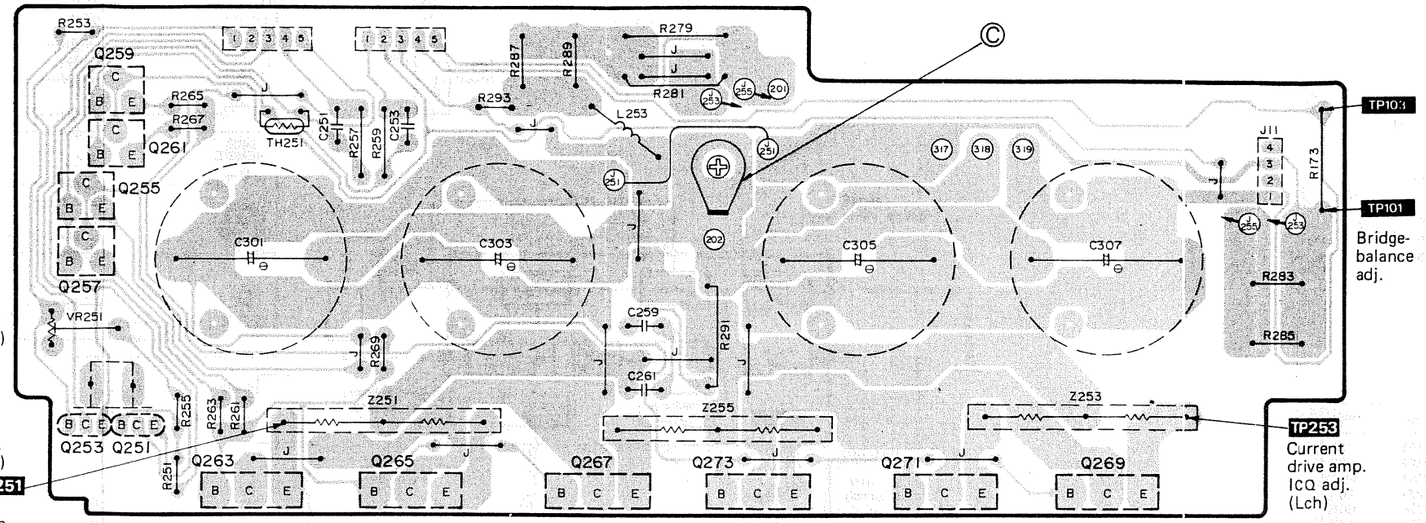


E CURRENT DRIVE AMP. P.C.B.

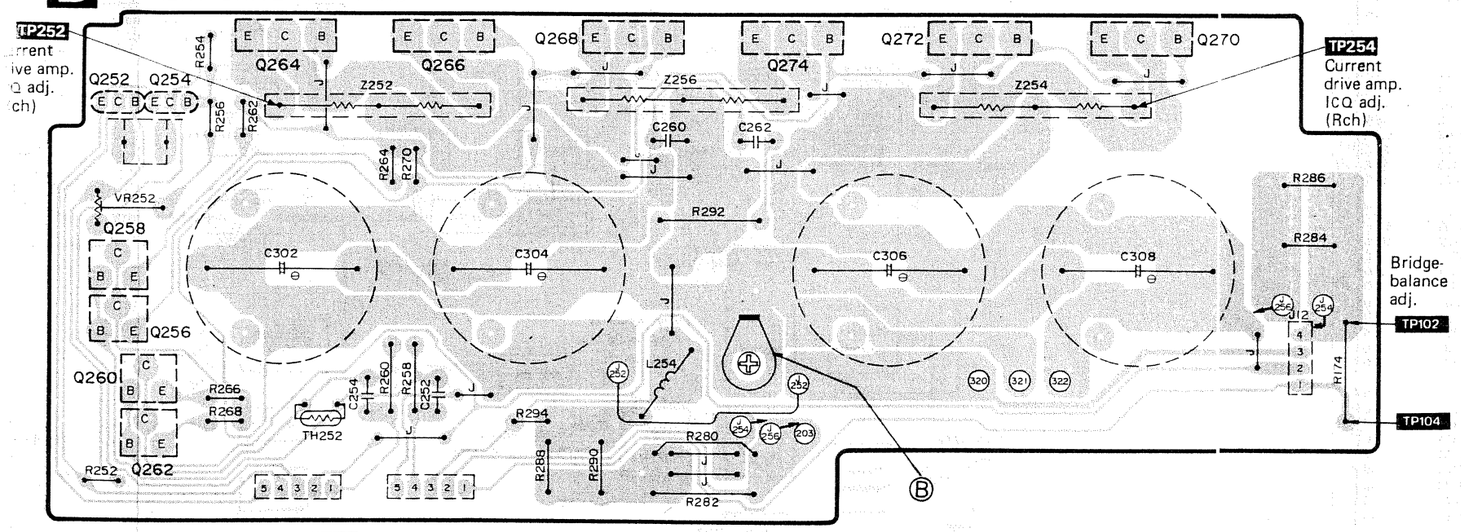


19 20 21 22 23 24 25 26 27 28

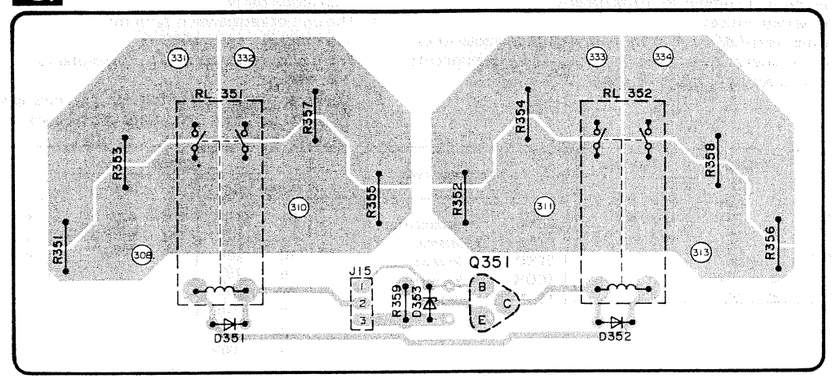
C CURRENT DRIVE AMP. P.C.B.



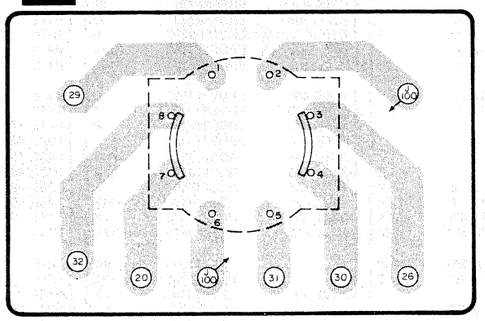
B CURRENT DRIVE AMP. P.C.B.



Q

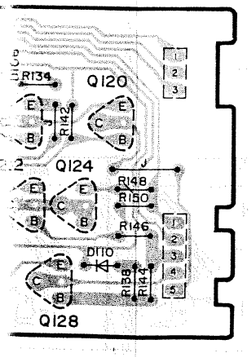


R POWER SELECTOR P.C.B.

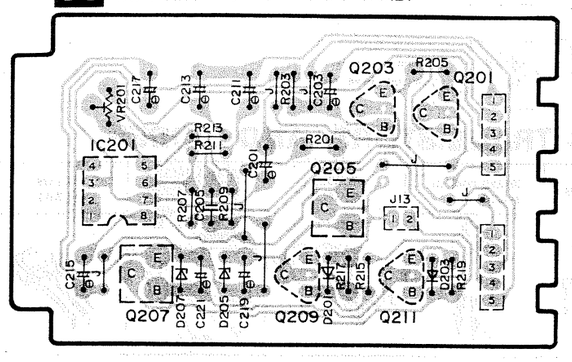


Note:
The ground points Ⓐ, Ⓑ and Ⓒ on P.C.B.s **A**, **B** and **C** are grounded with the bus bar. When and after checking up the machine, make sure the bus bar is connected in position and then turn on the machine.

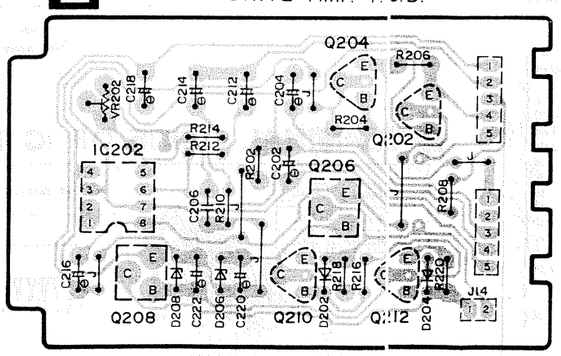
CONTROL AMP P.C.B.



H CURRENT DRIVE AMP. P.C.B.



E CURRENT DRIVE AMP. P.C.B.



■ RESISTORS & CAPACITORS

Notes: 1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
2. Important safety notice: Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
3. The "Ⓢ" mark is service standard parts and may differ from production parts.
4. The unit of resistance is Ω(ohm), K = 1000Ω, M = 1000kΩ.
5. The unit of capacitance is μF (microfarad). P = 10^{-6} μF
6. Bracketed indications in Ref. No. columns spedify the area. Parts without these indications can be used for all areas.

Resistor Type	Wattage	Tolerance
ERD : Carbon ERG : Metal Oxide ERO : Metal Film ERF : Non-flammable ERX	1A : 1W 2F : 1/2W 2S : 1/4W 2A : 2W S1 : 1/2W 3A : 3W S2 : 1/4W 5A : 5W	J : ±5% G : ±5% K : ±10%

Capacitor Type	Voltage		Tolerance
	ECEA Type	Other	
ECEA : Electrolytic ECCD : Ceramic ECKD : Ceramic ECQM : Polyester ECET : Electrolytic	0J : 6.3V 1A : 10V 1C : 16V 1E : 25V 1V : 35V 1H : 50V 1K : 80V 2A : 100V	1H : 50V 2H : 500V KC : 400VAC	K : ±10% Z : +80%, −20% P : $^{+100}_{0}$% J : ±5%

● RESISTORS

Ref. No.	Part No.	Value
R101, 102	ERDS2TJ332	3.3K
R103, 104	ERDS2TJ224	220K
R105, 106	ERDS2TJ473	47K
R107, 108	ER0S2TKG8200	820
R109, 110	ER0S2TKG2702	27K
R111, 112	ERDS2TJ272	2.7K
R113, 114	ERDS2TJ102	1K
R115, 116	ERDS2TJ563	56K
R117, 118	ERDS2TJ223	22K
R119, 120	ERDS2TJ124	120K
R121, 122	ERDS2TJ101	100
R123, 124	ERDS2TJ681	680
R125, 126	ERDS2TJ681	680
R127, 128	ERDS2TJ472	4.7K
R129, 130	ERDS2TJ221	220
R131, 132	ERDS2TJ470	47
R133, 134	ERDS2TJ821	820
R135, 136	ERDS2TJ102	1K
R137, 138	ERDS2TJ102	1K
R139, 140	ERDS2TJ563	56K
R141, 142	ERDS2TJ563	56K
R143, 144	ERDS2TJ563	56K
R145, 146	ERDS2TJ272	2.7K
R147, 148	ERDS2TJ101	100
R149, 150	ERDS2TJ101	100
R151, 152	ERD2FCG471	470
R153, 154	ERDS2TJ182	1.8K
R155, 156 Ⓢ ⚠	ERD25FJ391	390
R157, 158 Ⓢ ⚠	ERD25FJ2R2	2.2
R159, 160 Ⓢ ⚠	ERD25FJ2R2	2.2
R161, 162	ERX1SJR33	0.33
R163, 164	ERX1SJR33	0.33
R165, 166 Ⓢ ⚠	ERD25FJ151	150
R167, 168 Ⓢ ⚠	ERD25FJ151	150
R169, 170 ⚠	ERDS1FJ100	10
R171, 172 Ⓢ ⚠	ERD25FJ100	10
R173, 174	ERX1ANJR22	0.22

Ref. No.	Part No.	Value
R201, 202 Ⓢ ⚠	ERD25FJ332	3.3K
R203, 204 Ⓢ ⚠	ERD25FJ332	3.3K
R205, 206 Ⓢ ⚠	ERD25FJ391	390
R207, 208	ERDS2TJ392	3.9K
R209, 210	ERDS2TJ102	1K
R211, 212	ERDS2TJ221	220
R213, 214	ERDS2TJ221	220
R215, 216	ERDS2TJ224	220K
R217, 218 Ⓢ ⚠	ERD25FJ271	270
R219, 220 Ⓢ ⚠	ERD25FJ271	270
R251	ERDS2TJ472	4.7K
R252 Ⓢ ⚠	ERD25FJ472	4.7K
R253, 254	ERDS2TJ472	4.7K
R255, 256	ERDS2TJ472	4.7K
R257, 258	ERD2FCG681	680
R259, 260	ERD2FCG681	680
R261, 262 Ⓢ ⚠	ERD25FJ4R7	4.7
R263, 264 Ⓢ ⚠	ERD25FJ4R7	4.7
R265, 266 Ⓢ ⚠	ERD25FJ4R7	4.7
R267, 268 Ⓢ ⚠	ERD25FJ4R7	4.7
R269, 270 Ⓢ ⚠	ERD25FJ221	220
R275, 276 ⚠	ERDS1FJ4R7	4.7
R277, 278	ERG2ANJ100	10
R279, 280	ERX2SJR33	0.33
R281, 282	ERX2SJR33	0.33
R283, 284	ERF3AKR22	0.22
R285, 286	ERF3AKR22	0.22
R287, 288	ERF3AKR22	0.22
R289, 290	ERF3AKR22	0.22
R291, 292	ERG2SJ100	10
R293, 294 ⚠	ERDS1FJ4R7	4.7
R295, 296	ERG3ANJ331	330

Ref. No.	Part No.	Value
R301, 302	ERDS2TJ222	2.2K
R303	ERDS2TJ222	2.2K
R340	ERDS2TJ472	4.7K
R351, 352	ERF5AJ220	22
R353, 354	ERF5AJ220	22
R355, 356	ERF5AJ220	22
R357, 358	ERF5AJ220	22
R359 Ⓢ	ERD25FJ560	56
R401, 402 ⚠	ERDS1FJ392	3.9K
R403, 404	ERDS2TJ271	270
R405. 406	ERDS2TJ682	6.8K
R409, 410	ERDS2TJ182	1.8K
R411, 412	ERDS2TJ155	1.5M
R413, 414	ERDS2TJ123	12K
R415, 416	ERDS2TJ154	150K
R417, 418	ERDS2TJ223	22K
R419, 420	ERDS2TJ102	1K
R421, 422	ERDS2TJ104	100K
R423, 424	ERDS2TJ473	47K
R425, 426	ERDS2TJ473	47K
R431	ERDS2TJ681	680
R432	ERDS2TJ332	3.3K
R433. 434	ERDS2TJ103	10K
R435	ERDS2TJ223	22K
R436	ERDS2TJ104	100K
R439, 440	ERG2ANJ272	2.7K
R441, 442	ERG3ANJ122	1.2K
R443, 444	ERDS2TJ183	18K
R445, 446 Ⓢ ⚠	ERD25FJ151	150
R447. 448 Ⓢ ⚠	ERD25FJ471	470
R449. 450	ERDS2TJ272	2.7K
R451	ERDS2TJ184	180K
R452	ERDS2TJ154	150K
R453	ERDS2TJ223	22K
R454 Ⓢ ⚠	ERD25FJ471	470
R455. 456	ERDS2TJ223	22K
R457	ERDS2TJ822	8.2K
R458	ERDS2TJ473	47K
R459	ERDS2TJ223	22K
R460	ERDS2TJ822	8.2K
R461	ERDS2TJ334	330K

Ref. No.	Part No.	Value
R462	ERDS2TJ153	15K
R463	ERDS2TJ392	3.9K
R468	ERDS2TJ394	390K
R469	ERDS2TJ274	270K
R470	ERDS2TJ334	330K
R471	ERDS2TJ332	3.3K
R472	ERDS2TJ154	150K
R473	ERDS2TJ682	6.8K
R474	ERDS2TJ392	3.9K
R475	ERDS2TJ223	22K
R476	ERDS2TJ153	15K
R477	ERDS2TJ103	10K
R478, 479	ERDS2TJ223	22K
R480, 481	ERDS2TJ473	47K
R482, 483	ERDS2TJ682	6.8K
R484, 485	ERDS2TJ682	6.8K
R486, 487	ERDS2TJ682	6.8K
R489, 490	ERDS2TJ223	22K
R492, 493	ERDS2TJ103	10K
R494	ERDS2TJ473	47K
R495 ⚠	ERDS1FJ821	820
R496	ERDS2TJ562	5.6K
R497	ERDS2TJ224	220K
R501, 502	ERDS2TJ331	330
R503	ERDS2TJ391	390
R504, 505	ERDS2TJ331	330
R506	ERDS2TJ391	390
R507, 508	ERDS2TJ331	330
R509	ERDS2TJ391	390
R510, 511	ERDS2TJ331	330
R512	ERDS2TJ331	330
R513	ERDS2TJ471	470
R514, 515	ERDS2TJ391	390
R516	ERDS2TJ471	470
R517, 518	ERDS2TJ391	390
R519	ERDS2TJ151	150
R520, 521	ERDS2TJ181	180
R522	ERDS2TJ181	180
R523	ERDS2TJ471	470
R524, 525	ERDS2TJ391	390

● CAPACITORS

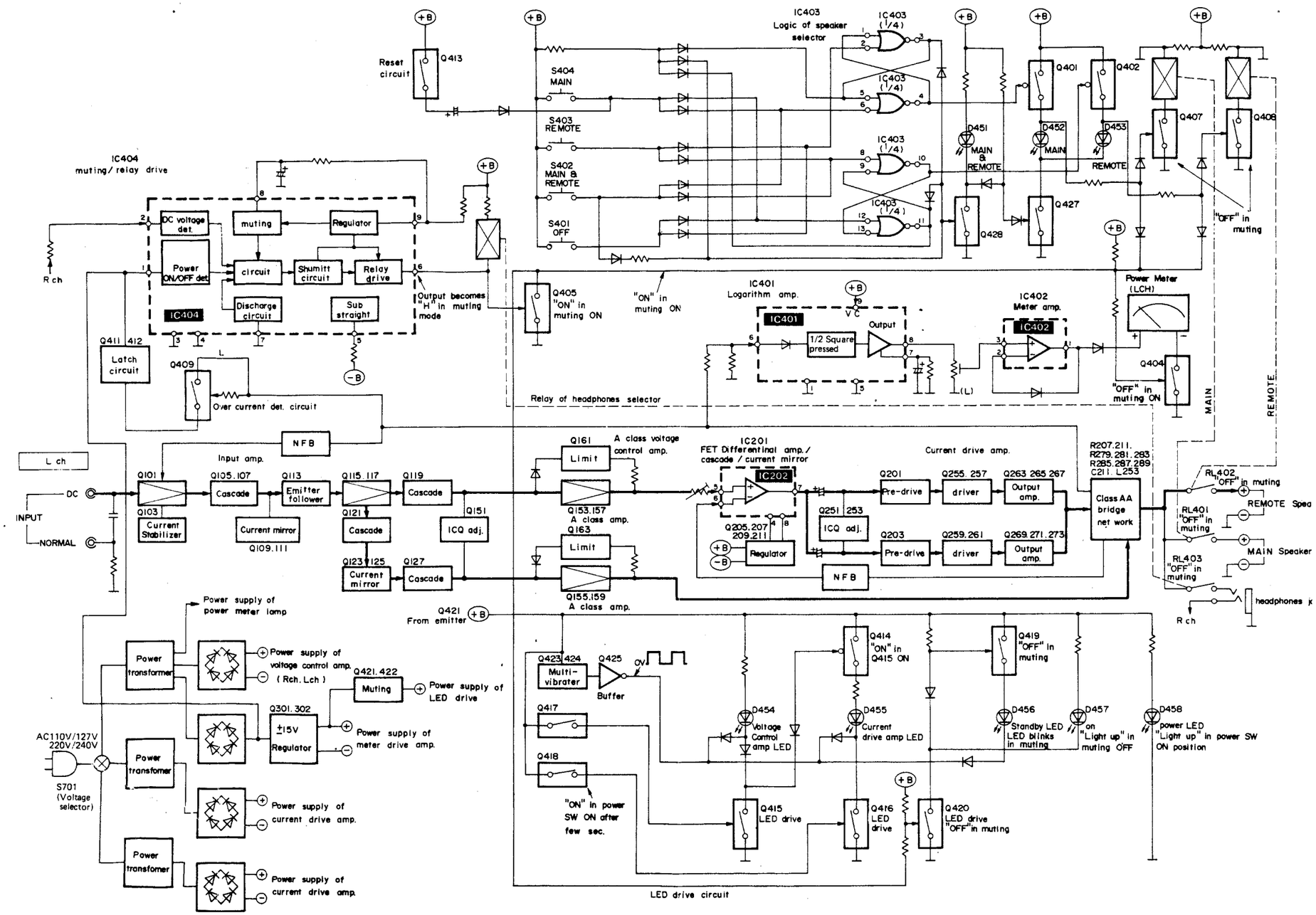
Ref. No.	Part No.	Value
C1 ⚠	ECKDKC103PF2	0.01
C2 ⚠	ECKDKC103PF2	0.01
C3, 4	ECKDKC222MFZ	0.0022
C5, 6	ECKDKC222MFZ	0.0022
C101, 102	ECEA1HU2R2	2.2
C103, 104 Ⓢ	ECCD1H221K	220P
C105, 106	ECEA1CU221	220
C107, 108 Ⓢ	ECCD1H120KC	12P
C109, 110 Ⓢ	ECKD1H391KB	390P
C151, 152 Ⓢ	ECCD2H101K	100P
C153, 154 Ⓢ	ECCD2H101K	100P
C155, 156 Ⓢ	ECQM1H472JZ	0.0047
C157, 158	ECEA2AU100	10
C159, 160	ECEA2AU100	10
C201, 202	ECEA1EU3R3	3.3
C203, 204	ECEA1EU3R3	3.3

Ref. No.	Part No.	Value
C205, 206 Ⓢ	ECQM1H472JZ	0.0047
C211, 212	ECEA1AU221	220
C213, 214	ECEA1AU221	220
C215, 216	ECEA1AU101	100
C217, 218	ECEA1AU101	100
C219, 220	ECEA1AU330	33
C221, 222	ECEA1AU330	33
C251, 252 Ⓢ	ECKD1H681KB	680P
C253, 254 Ⓢ	ECKD1H681KB	680P
C255, 256 Ⓢ	ECQM1H104JZ	0.1
C257, 258 Ⓢ	ECQM1H104JZ	0.1
C259, 260 Ⓢ	ECQM1H104JZ	0.1
C261, 262 Ⓢ	ECQM1H104JZ	0.1
C291, 292 Ⓢ [EGA] only	ECKD1H681KB	680P
C293, 294 Ⓢ [EGA] only	ECKD1H681KB	680P

Ref. No.	Part No.	Value
C295, 296 Ⓢ [EGA] only	ECQM1H103JZ	0.01
C297, 298 Ⓢ [EGA] only	ECQM1H103JZ	0.01
C301, 302	ECET1KV103LU	10000
C303, 304	ECET1KV103LU	10000
C305, 306	ECET1KV103LU	10000
C307, 308	ECET1KV103LU	10000
C309, 310	ECES1KU562U	5600
C311	ECEA1VU102	1000
C312	ECEA1VU471	470
C313	ECKD2H103PE	0.01
C314, 315	ECQE2104KZ	0.1
C316, 317	ECEA1EU3R3	3.3
C318, 319	ECEA1EU3R3	3.3
C401, 402	ECEA1HU4R7	4.7

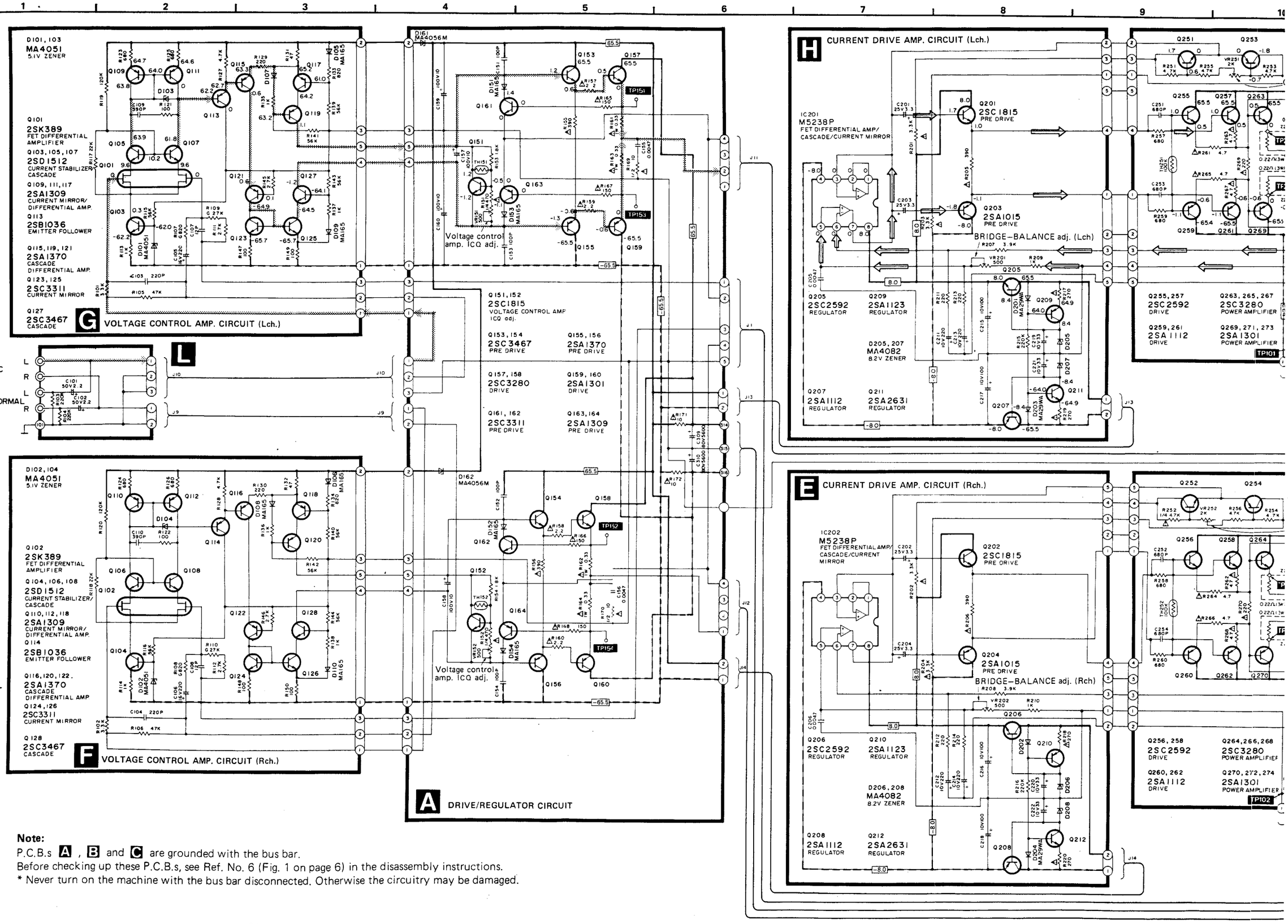
Ref. No.	Part No.	Value
C403, 404	ECEA1HUR47	0.47
C405	ECEA1CU472	4700
C406	ECEA1HUR22	0.22
C407 Ⓢ	ECKD1H103ZF	0.01
C408	ECEA1EU3R3	3.3
C409	ECEA0JU101	100
C410	ECEA0JU330	33
C411	ECEA1VU100	10
C412	ECEA1CU100	10
C413	ECEA1CU470	47
C414, 415	ECEA1EU100	10
C421, 422 Ⓢ	ECKD1H103ZF	0.01
C423, 424 Ⓢ	ECKD1H103ZF	0.01
C425, 426	ECEA1AU220	22

■ BLOCK DIAGRAM



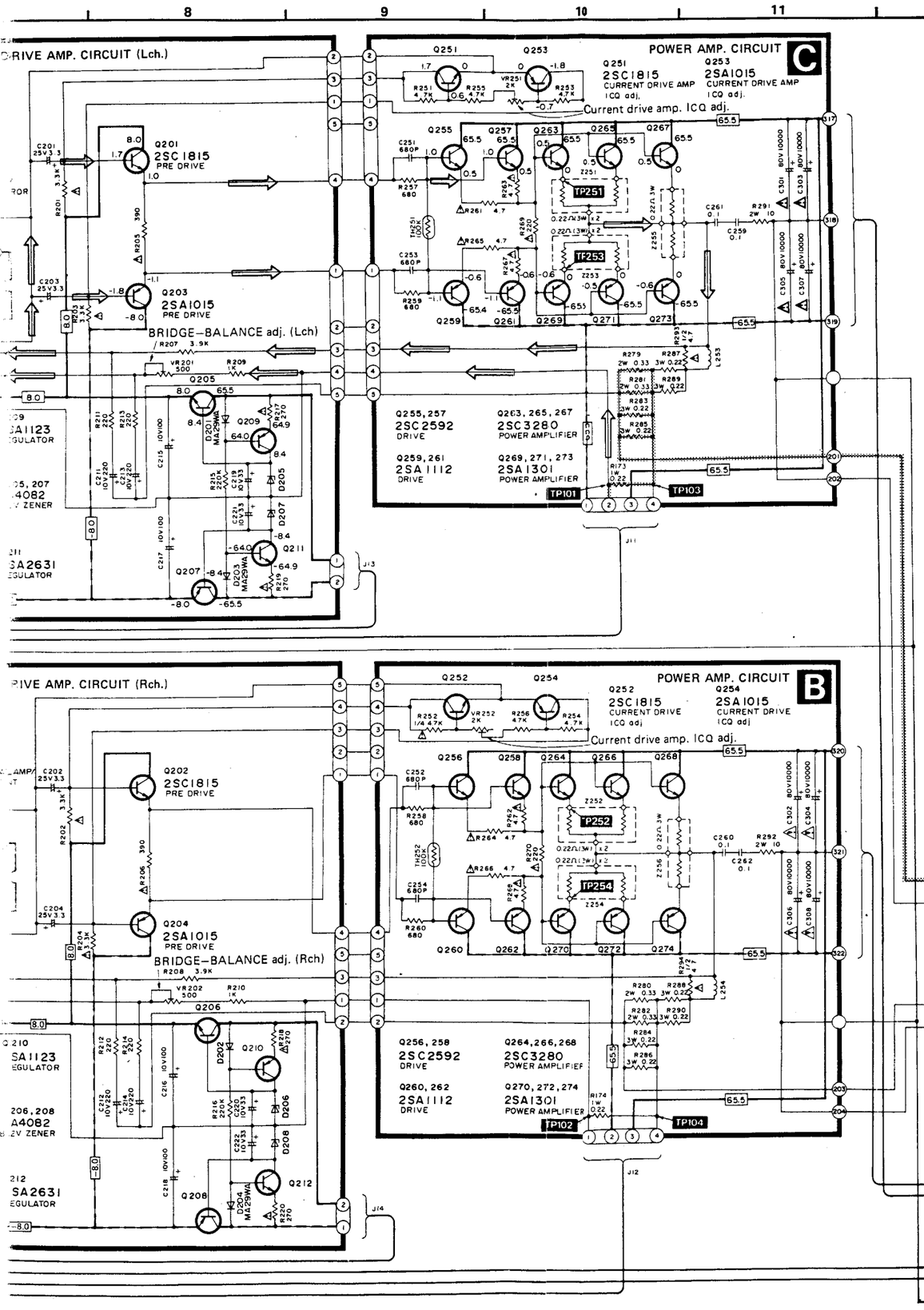
■ TERMINAL GUIDE OF IC'S TRANSISTORS, AND DIODES

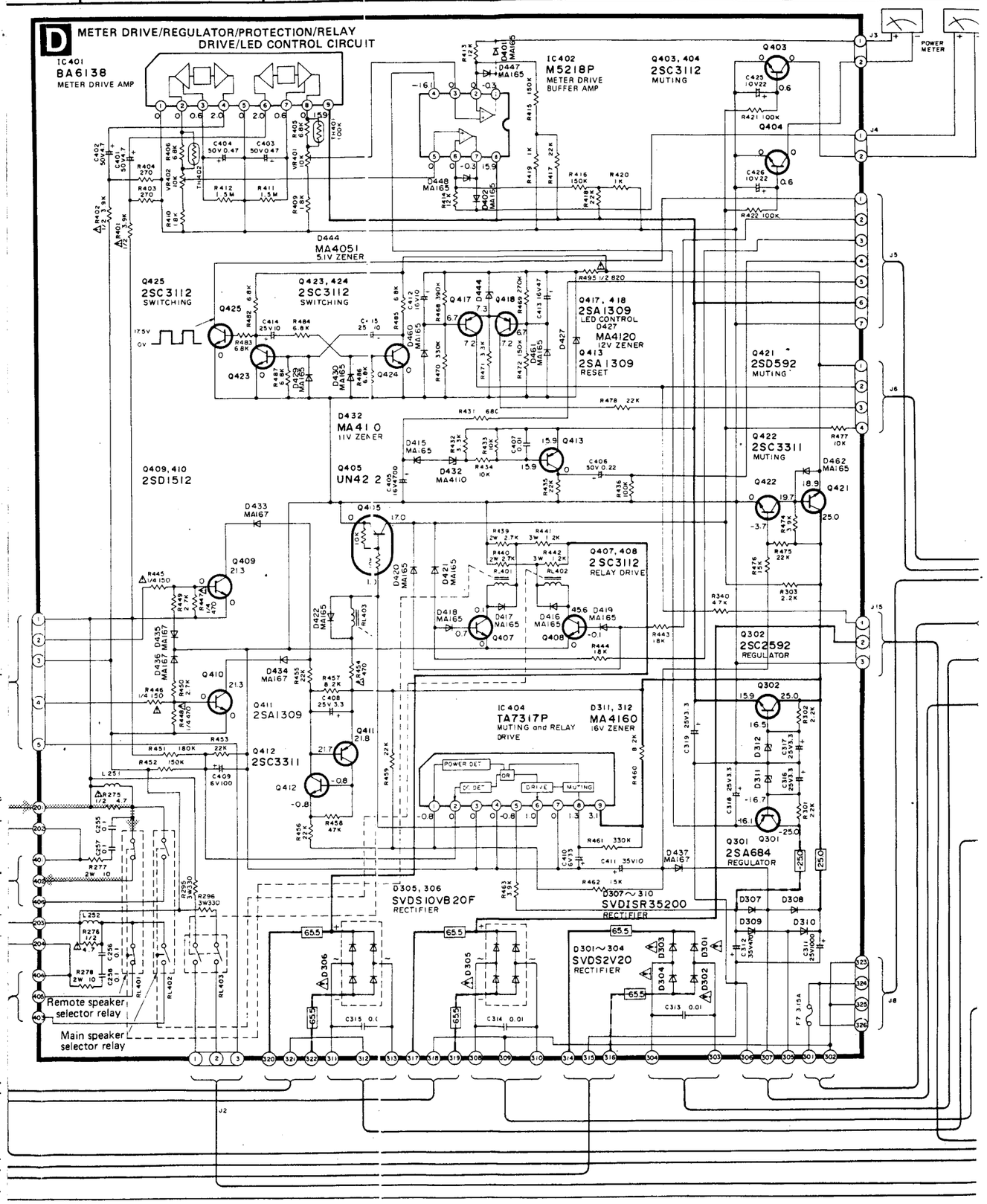
MN4001B 14Pin M5218P 8Pin M5238P 8Pin	BA6138 SVITA7317P	2SK389, 2SA1301, 2SC3280	2SC2592 2SA1112	2SC1815, 2SC3112 2SA1015, 2SC2631 2SA1123, 2SA1370 2SC3467, 2SA684 2SD592 , 2SD1512 2SB1036,	2SA1309 2SC3311	UN4112	UN4212	MA4056M MA4051M MA4082M MA4120M MA4180M MA4100M	MA165 MA167 MA29WA	SVDS2V20 1SR35200	SVDS10VB20F	LN346GP LN446YP LN846RP

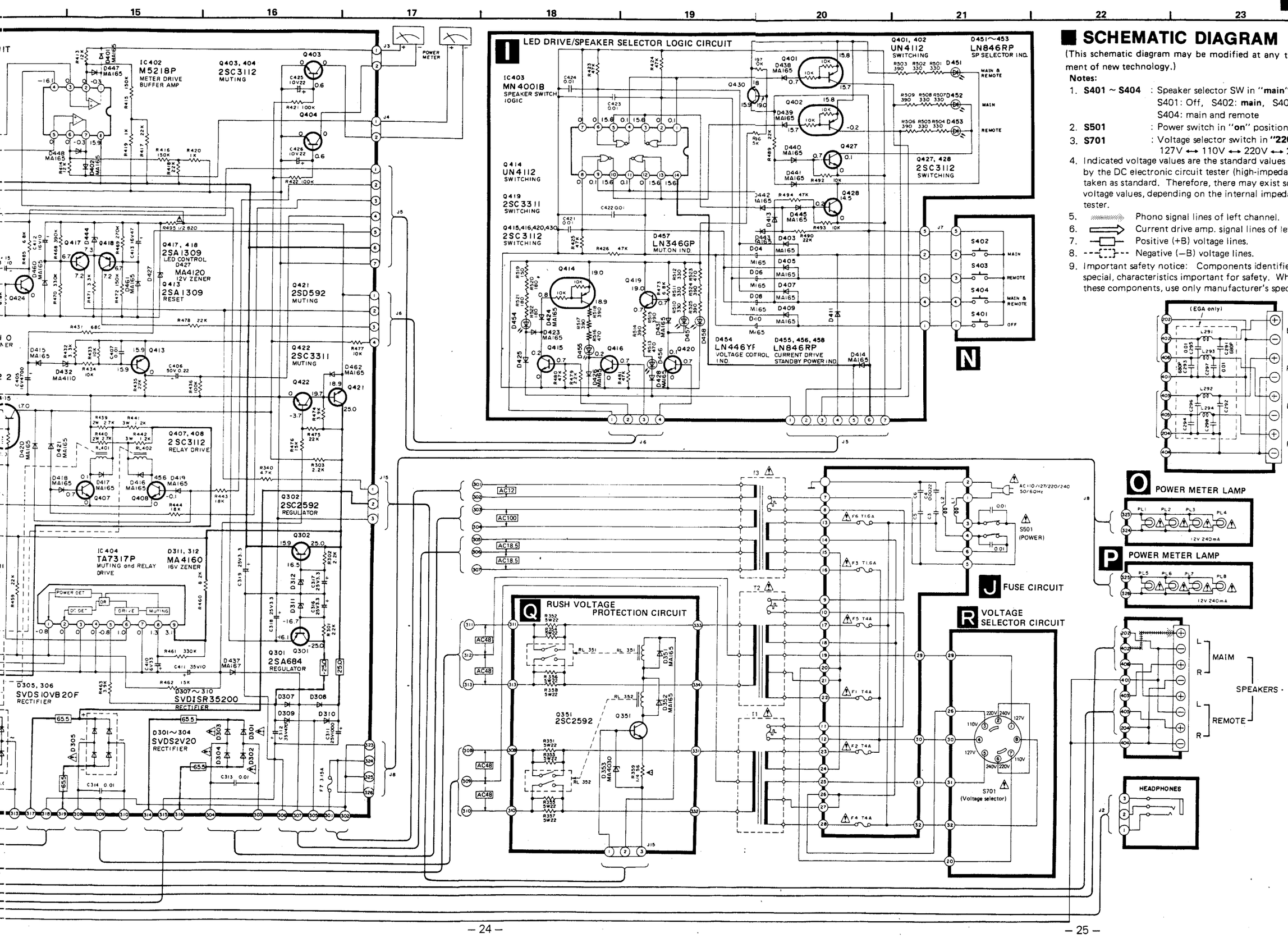

G VOLTAGE CONTROL AMP. CIRCUIT (Lch.)
F VOLTAGE CONTROL AMP. CIRCUIT (Rch.)
A DRIVE/REGULATOR CIRCUIT
H CURRENT DRIVE AMP. CIRCUIT (Lch.)
E CURRENT DRIVE AMP. CIRCUIT (Rch.)
L
INPUT
DC
NORMAL
Voltage control amp. ICQ adj.
BRIDGE-BALANCE adj. (Lch)
BRIDGE-BALANCE adj. (Rch)
D101, 103 MA4051 5.1V ZENER
D102, 104 MA4051 5.1V ZENER
D161 MA4056M
D162 MA4056M
Q101 2SK389 FET DIFFERENTIAL AMPLIFIER
Q102 2SK389 FET DIFFERENTIAL AMPLIFIER
Q103, 105, 107 2SD1512 CURRENT STABILIZER/ CASCADE
Q104, 106, 108 2SD1512 CURRENT STABILIZER/ CASCADE
Q109, 111, 117 2SA1309 CURRENT MIRROR/ DIFFERENTIAL AMP.
Q110, 112, 118 2SA1309 CURRENT MIRROR/ DIFFERENTIAL AMP.
Q113 2SB1036 EMITTER FOLLOWER
Q114 2SB1036 EMITTER FOLLOWER
Q115, 119, 121 2SA1370 CASCADE DIFFERENTIAL AMP.
Q116, 120, 122 2SA1370 CASCADE DIFFERENTIAL AMP
Q123, 125 2SC3311 CURRENT MIRROR
Q124, 126 2SC3311 CURRENT MIRROR
Q127 2SC3467 CASCADE
Q128 2SC3467 CASCADE
Q151, 152 2SC1815 VOLTAGE CONTROL AMP ICQ adj.
Q153, 154 2SC3467 PRE DRIVE
Q155, 156 2SA1370 PRE DRIVE
Q157, 158 2SC3280 DRIVE
Q159, 160 2SA1301 DRIVE
Q161, 162 2SC3311 PRE DRIVE
Q163, 164 2SA1309 PRE DRIVE
IC201 M5238P FET DIFFERENTIAL AMP/ CASCADE/CURRENT MIRROR
IC202 M5238P FET DIFFERENTIAL AMP/ CASCADE/CURRENT MIRROR
Q201 2SC1815 PRE DRIVE
Q202 2SC1815 PRE DRIVE
Q203 2SA1015 PRE DRIVE
Q204 2SA1015 PRE DRIVE
Q205 2SC2592 REGULATOR
Q206 2SC2592 REGULATOR
Q207 2SA1112 REGULATOR
Q208 2SA1112 REGULATOR
Q209 2SA1123 REGULATOR
Q210 2SA1123 REGULATOR
Q211 2SA2631 REGULATOR
Q212 2SA2631 REGULATOR
D205, 207 MA4082 8.2V ZENER
D206, 208 MA4082 8.2V ZENER
Q251 Q253 Q255 Q257 Q263 Q265
Q252 Q254 Q256 Q258 Q264 Q266
Q255, 257 2SC2592 DRIVE
Q263, 265, 267 2SC3280 POWER AMPLIFIER
Q259, 261 2SA1112 DRIVE
Q269, 271, 273 2SA1301 POWER AMPLIFIER
Q256, 258 2SC2592 DRIVE
Q264, 266, 268 2SC3280 POWER AMPLIFIER
Q260, 262 2SA1112 DRIVE
Q270, 272, 274 2SA1301 POWER AMPLIFIER
TP101
TP102
TP151
TP152
TP153
TP154

Note:

P.C.B.s **A** , **B** and **C** are grounded with the bus bar.
Before checking up these P.C.B.s, see Ref. No. 6 (Fig. 1 on page 6) in the disassembly instructions.
* Never turn on the machine with the bus bar disconnected. Otherwise the circuitry may be damaged.


DRIVE AMP. CIRCUIT (Lch.)
POWER AMP. CIRCUIT
C
Q251
2SC1815
CURRENT DRIVE AMP
ICQ adj.
Q253
2SA1015
CURRENT DRIVE AMP
ICQ adj.
Current drive amp. ICQ adj.
Q201
2SC1815
PRE DRIVE
Q203
2SA1015
PRE DRIVE
BRIDGE–BALANCE adj. (Lch)
Q205
Q255, 257
2SC2592
DRIVE
Q263, 265, 267
2SC3280
POWER AMPLIFIER
Q259, 261
2SA1112
DRIVE
Q269, 271, 273
2SA1301
POWER AMPLIFIER
TP251
TP253
TP101
TP103
J11
J13
DRIVE AMP. CIRCUIT (Rch.)
POWER AMP. CIRCUIT
B
Q252
2SC1815
CURRENT DRIVE
ICQ adj
Q254
2SA1015
CURRENT DRIVE
ICQ adj
Current drive amp. ICQ adj.
Q202
2SC1815
PRE DRIVE
Q204
2SA1015
PRE DRIVE
BRIDGE–BALANCE adj. (Rch)
Q206
Q256, 258
2SC2592
DRIVE
Q264, 266, 268
2SC3280
POWER AMPLIFIER
Q260, 262
2SA1112
DRIVE
Q270, 272, 274
2SA1301
POWER AMPLIFIER
TP252
TP254
TP102
TP104
J12
J14


D
METER DRIVE/REGULATOR/PROTECTION/RELAY DRIVE/LED CONTROL CIRCUIT
IC401
BA6138
METER DRIVE AMP
IC402
M5218P
METER DRIVE BUFFER AMP
Q403, 404
2SC3112
MUTING
D444
MA4051
5.1V ZENER
Q425
2SC3112
SWITCHING
Q423, 424
2SC3112
SWITCHING
Q417, 418
2SA1309
LED CONTROL
D427
MA4120
12V ZENER
Q413
2SA1309
RESET
Q421
2SD592
MUTING
Q422
2SC3311
MUTING
D432
MA410
11V ZENER
Q405
UN4224
Q409, 410
2SD1512
Q407, 408
2SC3112
RELAY DRIVE
Q302
2SC2592
REGULATOR
Q301
2SA684
REGULATOR
IC404
TA7317P
MUTING and RELAY DRIVE
D311, 312
MA4160
16V ZENER
D305, 306
SVDS10VB20F
RECTIFIER
D307~310
SVDISR35200
RECTIFIER
D301~304
SVDS2V20
RECTIFIER
Q411
2SA1309
Q412
2SC3311
Remote speaker selector relay
Main speaker selector relay
POWER METER
J2
J3
J4
J5
J6
J8
J15



■ SCHEMATIC DIAGRAM

(This schematic diagram may be modified at any time with the development of new technology.)

Notes:

1. **S401 ~ S404** : Speaker selector SW in **"main"** position.
   S401: Off, S402: **main**, S403: remote
   S404: main and remote
2. **S501** : Power switch in **"on"** position.
3. **S701** : Voltage selector switch in **"220V"** position.
   127V ⟷ 110V ⟷ 220V ⟷ 240V
4. Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage voltage values, depending on the internal impedance of the DC circuit tester.
5. Phono signal lines of left channel.
6. Current drive amp. signal lines of left channel.
7. Positive (+B) voltage lines.
8. Negative (−B) voltage lines.
9. Important safety notice: Components identified by ⚠ mark have special, characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

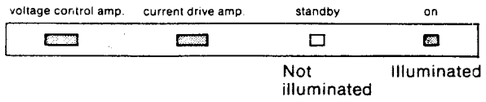
■ PROTECTION CIRCUITRY

The protection circuitry functions under the following conditions, the "on" operation indicator illumination stops, and the "standby" indicator flashes.

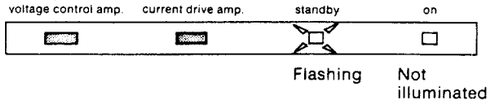
Probable causes: E08AA01C E08BB03A E08BD03A

1. The protection circuitry has functioned because the positive (+) and negative (−) speaker connection wires are short-circuited.
2. The protection circuitry has functioned due to a malfunction of other equipment (such as the control amplifier, etc.), thus resulting in a DC component being applied to the input of this unit.
3. The protection circuitry has functioned because of a malfunction of this unit.

During normal operation
(Sound is heard from speakers)



When protection circuitry functions
(No sound is heard from speakers)



If the protection circuitry functions, the following steps should be taken.

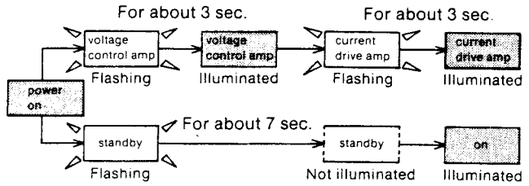
1. **First check whether or not speaker connection wires have short circuited.**
   If they have, be sure to first switch OFF the power. Then, after correcting the connections, once again switch ON the power.

2. **If the speaker connection wires are not short-circuited** ...
   ① Turn off the power.
   ② Disconnect the control amplifier and speaker system connections.
   ③ Turn on the power once again.
   If at this time the "standby" indicator continues to flash, the problem is probably with this unit. Please consult with the store where the unit was purchased or with a nearby Authorized Service Center (list enclosed).

3. **If the steps taken in 2. above result in illumination of the "on" indicator** ...
   ① Turn off the power.
   ② Reconnect the connections of the input terminals from "DC" to "NORMAL", and connect the speaker systems.
   ③ Turn on the power once again.
   If, at this time, the "on" indicator illuminates, there may be a malfunction of the control amplifier.
   If the "standby" indicator continues to flash, the problem is probably with the speaker system. Please consult with the store where the speaker systems were purchased or with a nearby Authorized Service Center (list enclosed).

■ HOW TO OPERATION INDICATORS

These indicators illuminate to indicate the operation condition of this unit.



voltage control amp:
When the power is switched ON, illumination begins after flashing for about three seconds.
This indicates that the voltage-control amplifier can be used.

current drive amp:
When the voltage-control amplifier indicator illuminates, illumination begins after flashing for about three seconds.
This indicates that the current-drive amplifier can be used.

standby:
This indicator flashes for about seven seconds after the power is switched ON; the flashing stops when the circuitry is in the normal operating condition.
Also flashes when the following abnormal conditions are detected.
① If, during the approximately seven seconds of flashing after the power is switched ON, a DC component is detected in the input, the protection circuitry is activated and the indicator flashes continuously.
② If, during use, the speaker connection wires become short-circuited.

on:
Illuminates simultaneously when the "standby" indicator stops illumination.
Indicates that the relay is in the ON condition and that there has been a change to the condition in which sound can be heard from the speaker systems.
Note that this indicator's illumination will stop if the "standby" indicator is flashing.

■ REPLACEMENT PARTS LIST (Electric, cabinet & chassis parts)

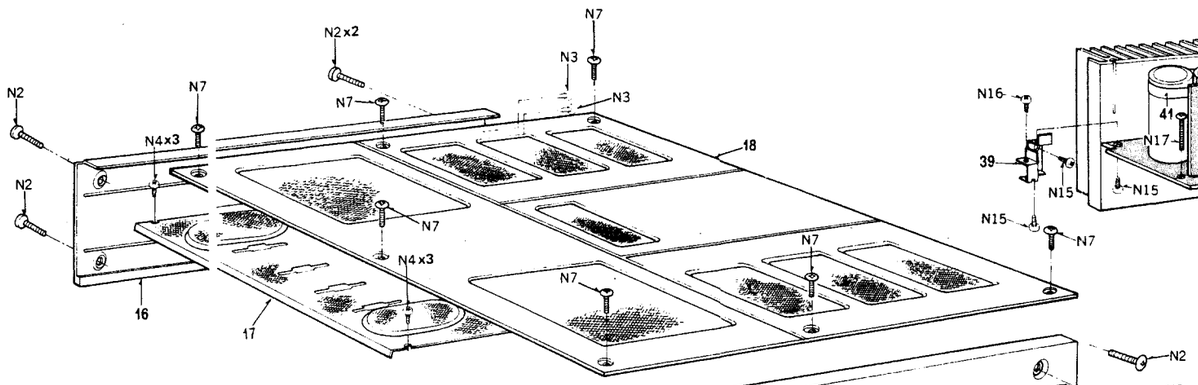
Notes:
1. Part numbers are indicated on most mechanical parts. Please use this part number for parts order.
2. Important safety notice: Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. Bracketed indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.
4. The " Ⓢ " mark is service standard parts and may differ from production parts.
5. The parenthesized numbers in the column of description stand for the quantity per set.

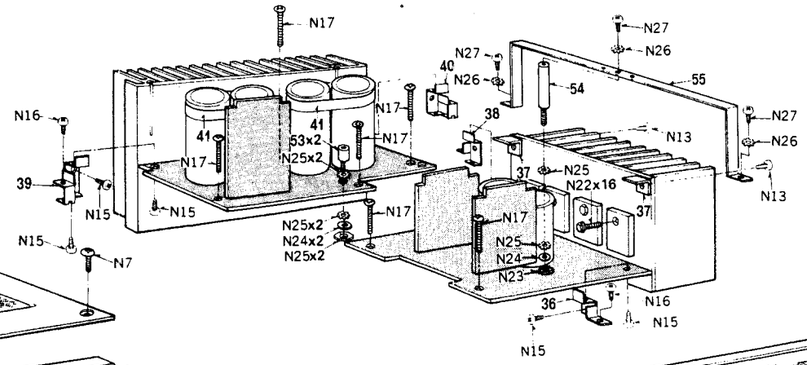
Ref. No.	Part No.	Description
INTEGRATED CIRCUITS		
IC201, 202	M5238P	Integrated Circuit
IC401	BA6138	Integrated Circuit
IC402	M5218P	Integrated Circuit
IC403	MN4001B	Integrated Circuit
IC404	SVITA7317P	Integrated Circuit
TRANSISTORS		
Q101, 102	2SK389−GR	Transistor (FET)
Q103∼108	2SD1512R	Transistor
Q109∼112, 117, 118	2SA1309Q	Transistor
Q113, 114	2SB1036R	Transistor
Q115, 116, 119∼122, 155, 156	2SA1370−D	Transistor
Q123∼126, 419	2SC3311−Q	Transistor
Q127, 128, 153, 154	2SC3467−D	Transistor
Q151, 152, 201, 202, 251, 252	2SC1815Y	Transistor
Q157, 158, 263∼268	2SC3280R	Transistor
Q159, 160, 269∼274	2SA1301R	Transistor
Q161, 162, 412, 422	2SC3311−Q	Transistor
Q163, 164, 411, 413, 417, 418	2SA1309Q	Transistor
Q203, 204, 253, 254	2SA1015Y	Transistor
Q205, 206, 255∼258	2SC2592−R	Transistor
Q207, 208, 259∼262	2SA1112−R	Transistor
Q209, 210	2SA1123−R	Transistor
Q211, 212	2SC2631−R	Transistor
Q301	2SA684−QNC	Transistor
Q302	2SC2592−R	Transistor
Q351	2SC2592−R	Transistor
Q401, 402, 414	UN4112	Transistor
Q403, 404, 407, 408, 415, 416, 420, 423∼425, 427, 428, 430	2SC3112	Transistor
Q405	UN4212	Transistor
Q409, 410	2SD1512R	Transistor
Q421	2SD592ANCQ	Transistor
DIODES		
D101∼104, 444	MA4051M	Diode
D105∼110, 151∼154, 401∼411, 413∼422, 423∼426, 428, 429, 430, 431, 438∼443, 445, 447, 448, 460∼462	MA165	Diode
D161, 162	MA4056−M	Diode
D201∼204	MA29WA	Diode
D205∼208	MA4082M	Diode
D301∼304 ⚠	SVDS2V20	Rectifier
D305, 306 ⚠	SVDS10VB20F	Rectifier
D307∼310 ⚠	1SR35200	Rectifier
D311, 312	MA4160M	Diode
D351, 352	MA165	Diode
D353	MA4030M	Diode
D427	MA4120−M	Diode
D432	MA4100M	Diode
D433∼437	MA167	Diode
D451∼453, 455, 456, 458	LN846RP	Diode (L.E.D.)
D454	LN446YP	Diode (L.E.D.)
D457	LN346GP	Diode (L.E.D.)
COILS		
L1, 2	ELQ050D15	Choke
L251, 252	SLQY18G−10	Choke
L253, 354	SLQY07G−30	Choke
L291∼294 [EGA] only	SLQY07G−30	Choke
TRANSFORMERS		
T1 ⚠	SLT5R67−1	Power Transformer
T2 ⚠	SLT5R67−2	Power Transformer
T3 ⚠	SLT5N458	Power Transformer
VARIABLE RESISTORS		
VR151, 152	EVNK6AA00B52	Variable Resistor, 500Ω(B)
VR201, 202	EVNK0AA00B52	Variable Resistor, 500Ω(B)
VR251, 252	EVNK6AA00B23	Variable Resistor, 2kΩ(B)
VR401, 402	EVNK6AA00B14	Variable Resistor, 10kΩ(B)
THERMISTORS		
TH251, 252, 401, 402	ERTD2ZHK104S	100kΩ
COMPONENT COMBINATIONS		
Z251∼256	ERF3GBKR22N	0.22Ω×2
RELAYS		
RL351, 352	SSY129	
RL401, 402	SSY126	Speaker
RL403	SFDYG5A237P	Headphone
LAMPS		
PL1∼8 ⚠	XAMS19P	Meter
FUSES		
F1, 2 [EK] ⚠	XBA2C40TB0	250V, T4A
F1, 2 [Other] ⚠	XBA2C40TR0	250V, T4A
F3 [EK] ⚠	XBA2C16TB0	250V, T1.6A
F3 [Other] ⚠	XBA2C16TR0	250V, T1.6A
F4, 5 [EK] ⚠	XBA2C40TB0	250V, T4A
F4, 5 [Other] ⚠	XBA2C40TR0	250V, T4A
F6 [EK] ⚠	XBA2C16TB0	250V, T1.6A
F6 [Other] ⚠	XBA2C16TR0	250V, T1.6A
F7 [EK] ⚠	XBA2C31TB0	250V, T3.15A
F7 [Other] ⚠	XBA2C31TR0	250V, T3.15A
SWITCHES		
S401∼404	SSG13	Speaker Selector
S501 ⚠	ESB9997S	Power Source
S701 ⚠	ESE37263	Voltage Selector
METER		
	SSMEA100−KN	Power Meter

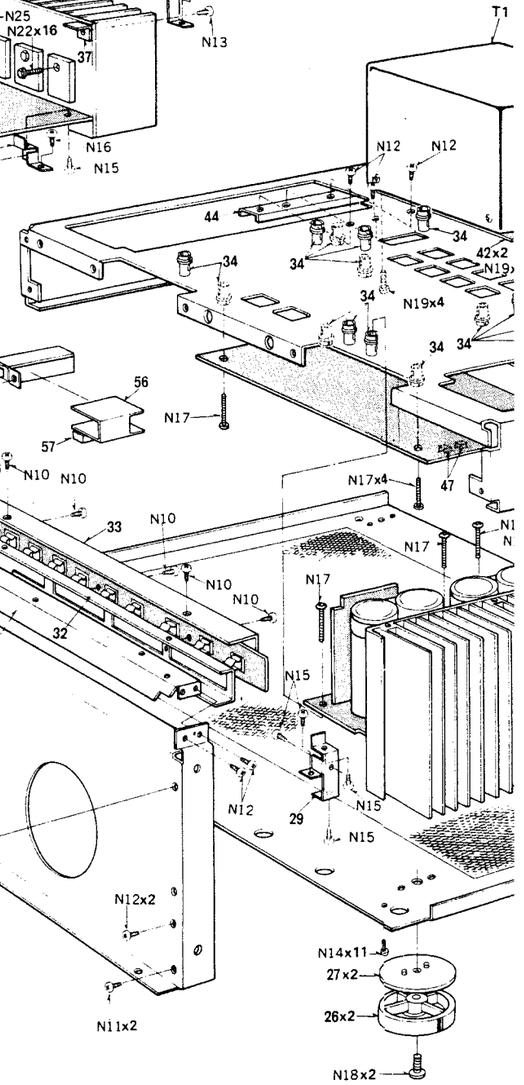
Ref. No.	Part No.	Description	
CABINET and CHASSIS PARTS			
1	SGWEA100−KM	Panel Ass'y (Down)	(1)
1-1	[SHG6379]	Rubber	(2)
2	SGXEA100−KM	Ornament Ass'y (Left)	(1)
3	SGXEA100−KM1	Ornament Ass'y (Right)	(1)
4	SGUEA100−KN	Transparent Plate (Glass)	(1)
5	SGWEA100−KN1	Panel Ass'y (Upper)	(1)
5-1	[SHG6379]	Rubber	(2)
6	SUWEA100−KN	Bracket	(1)
7	SGWEA100−KN2	Indicator Panel Ass'y	(1)
8	SUW2981	Bracket	(2)
9	SJJ63B	Jack	(1)
10	SBCEA100−KN	Button Ass'y	(1)
11	SUW2980	Bracket	(1)
12	SHG6382	Rubber	(3)
13	SBC666−3	Button, Power Switch	(1)
14	SUB161−1	Connection Rod, Power Switch	(1)
16	SUHEA100−KM	Side Plate (Left)	(1)
17	SMN1997	Net	(1)
18 [EK]	SKCEA100−KK	Upper Cover	(1)
18 [Other]	SKCEA100−KD	Upper Cover	(1)
19	SUHEA100−KM1	Side Plate (Right)	(1)

Ref. No.	Part No.	Description	
25	SUW2987	Bracket	(1)
26	SKL295	Foot	(4)
27	SHG3018	Rubber	(4)
28 [EK]	SKUEA100−KK	Bottom Board	(1)
28 [Other]	SKU11370	Bottom Board	(1)
29	SUW2977	Bracket	(1)
30	SUW2977−1	Bracket	(1)
31	SUW1621−1	Bracket	(1)
32	SMPEA100−KN	Plate	(1)
33	SMZ319	Plate	(1)
34	SHE181	Spacer	(24)
35	SUW2827−2	Bracket	(1)
36	SUW2978−1	Bracket	(1)
37	SUW2905−1	Bracket	(2)
38	SUW2978	Bracket	(2)
39	SUW2977−1	Bracket	(1)
40	SUW2977	Bracket	(1)
41	SHS2445	Sheet	(4)
42	SHG6355	Rubber	(4)
43	SHG6137	Rubber	(6)
44	SUW2988	Bracket	(2)
45	SJF4817	Terminal Board (Speaker)	(1)
46	SJF3431−9A	Terminal Board (Input)	(1)
47	SJT347	Fuse Holder	(14)
48 [D]	SGPEA100−KD	Rear Panel	(1)
48 [EW]	SGPEA100−KW	Rear Panel	(1)
48 [EK]	SGPEA100−KK	Rear Panel	(1)
48 [XL]	SGPEA100−KL	Rear Panel	(1)
48 [XA, PA, PE]	SGPEA100−KX	Rear Panel	(1)
48 [EF, EH, EB, Ei, EGA]	SGPEA100−KF	Rear Panel	(1)
49	SKL241	Foot	(4)
50 [EW] ⚠	SJA111	AC Cord	(1)
50 [EK] ⚠	QFC1205M	AC Cord	(1)
50 [XL] ⚠	SJAG23	AC Cord	(1)
50 ⚠ [XA, PA, PE]	SJA121	AC Cord	(1)
50 ⚠ [Other]	SJA123	AC Cord	(1)
51 [EW, XL, XA, PA, PE]	SHR127	Bushing AC Cord	(1)
51 [Other]	SHR131	Bushing AC Cord	(1)
53	SUX41	Spacer	(2)
54	SUX40	Spacer	(1)
55	SMT4	Bracket	(1)
56	SMX908	Cover	(1)
57	SHG6388	Rubber	(1)
59	SJT345	Lamp Holder	(16)
60	SHR301	Clamp	(20)
SCREWS, WASHERS and NUTS			
N1	XTB3+8FFZ	Tapping, ⊕3×8	(24)
N2	XSSS5+12F1S	⊕5×12	(8)
N3	XTBS3+8FFZ1	Tapping with Detent, ⊕3×8	(4)
N4	XTW3+8HFZ	Tapping with Washer, ⊕3×8	(6)
N5 Ⓢ	XNS12	Nut, φ12	(1)
N6	SNE59−1	Washer (Headphone)	(1)
N7	SNE2095−6	Upper Cover	(7)
N10	XTB3+8FFZ	Tapping, ⊕3×8	(12)
N11	XTBS3+8FFZ1	Tapping with Detent, ⊕3×8	(4)
N12	XTB4+8FFZ	Tapping, ⊕4×8	(18)
N13	XYN3+C8FZS	⊕3×8	(6)
N14	XTB4+18FFZ	Tapping, ⊕4×18	(11)
N15	XTW3+8T	Tapping with Washer, ⊕3×8	(16)
N16	XTW3+8LFR	Tapping with Washer, ⊕3×8	(6)
N17	XTV3+20F	Tapping, ⊕3×20	(24)
N18	XTB4+16FFZ	Tapping, ⊕3×16	(4)
N19	XTB4+10FFZ	Tapping, ⊕4×10	(12)
N20	XTB3+8GFZ	Tapping, ⊕3×8	(6)
N21	XTB4+12FFZ	Tapping, ⊕4×12	(4)
N22	SNE2117−1	Transistor	(16)
N23 Ⓢ	XNG4ES	Nut, φ4	(3)
N24 Ⓢ	XWA4B	Washer, φ4	(3)
N25 Ⓢ	XWC4B	Washer, φ4	(6)
N26 Ⓢ	XWC3B	Washer, φ3	(3)
N27	XYN3+C8S	⊕3×8	(3)
N29	XYN3+C8FZS	⊕3×8	(2)

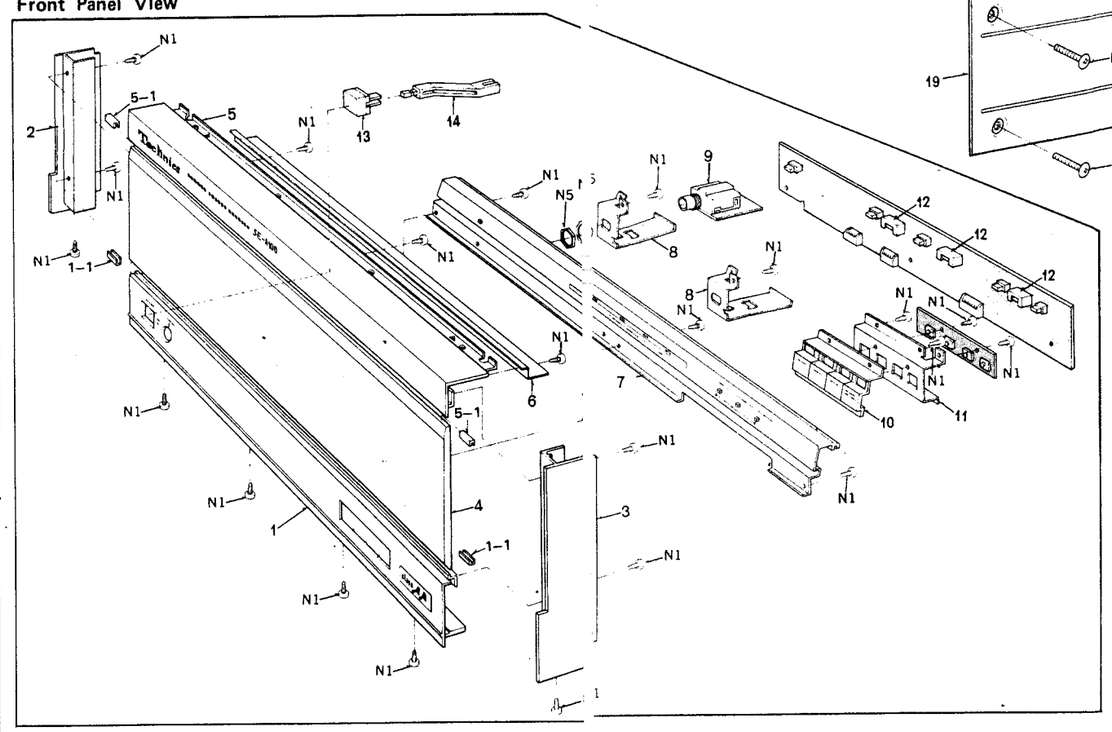
■ EXPLODED VIEWS

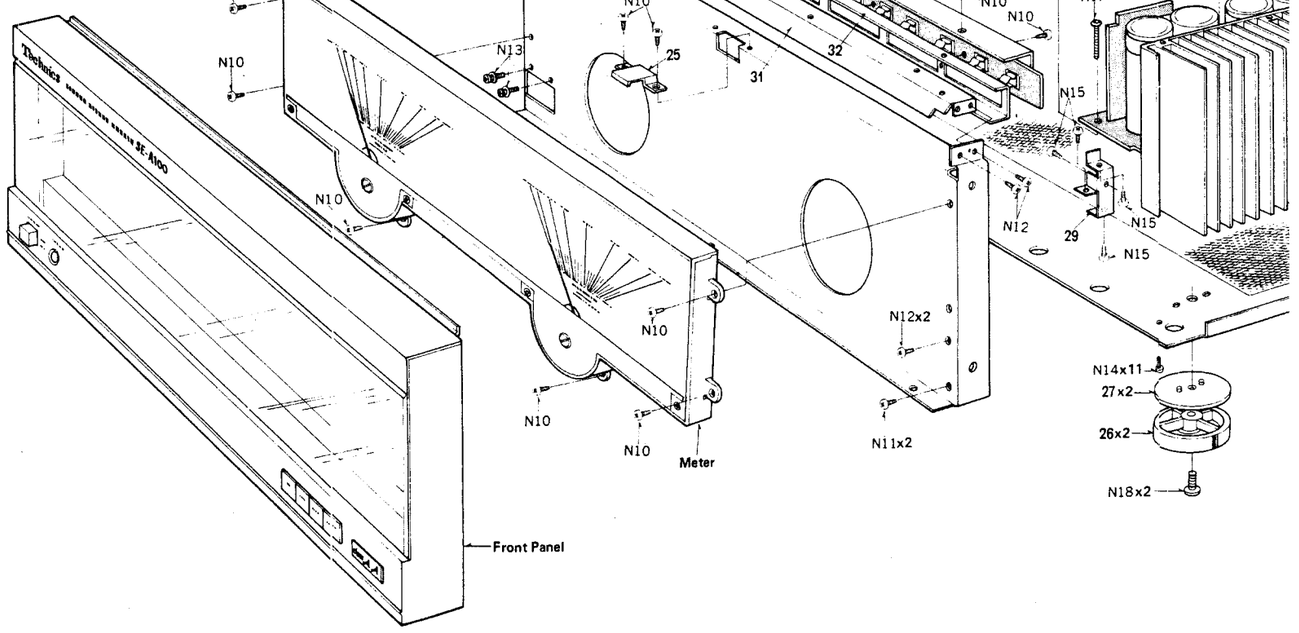






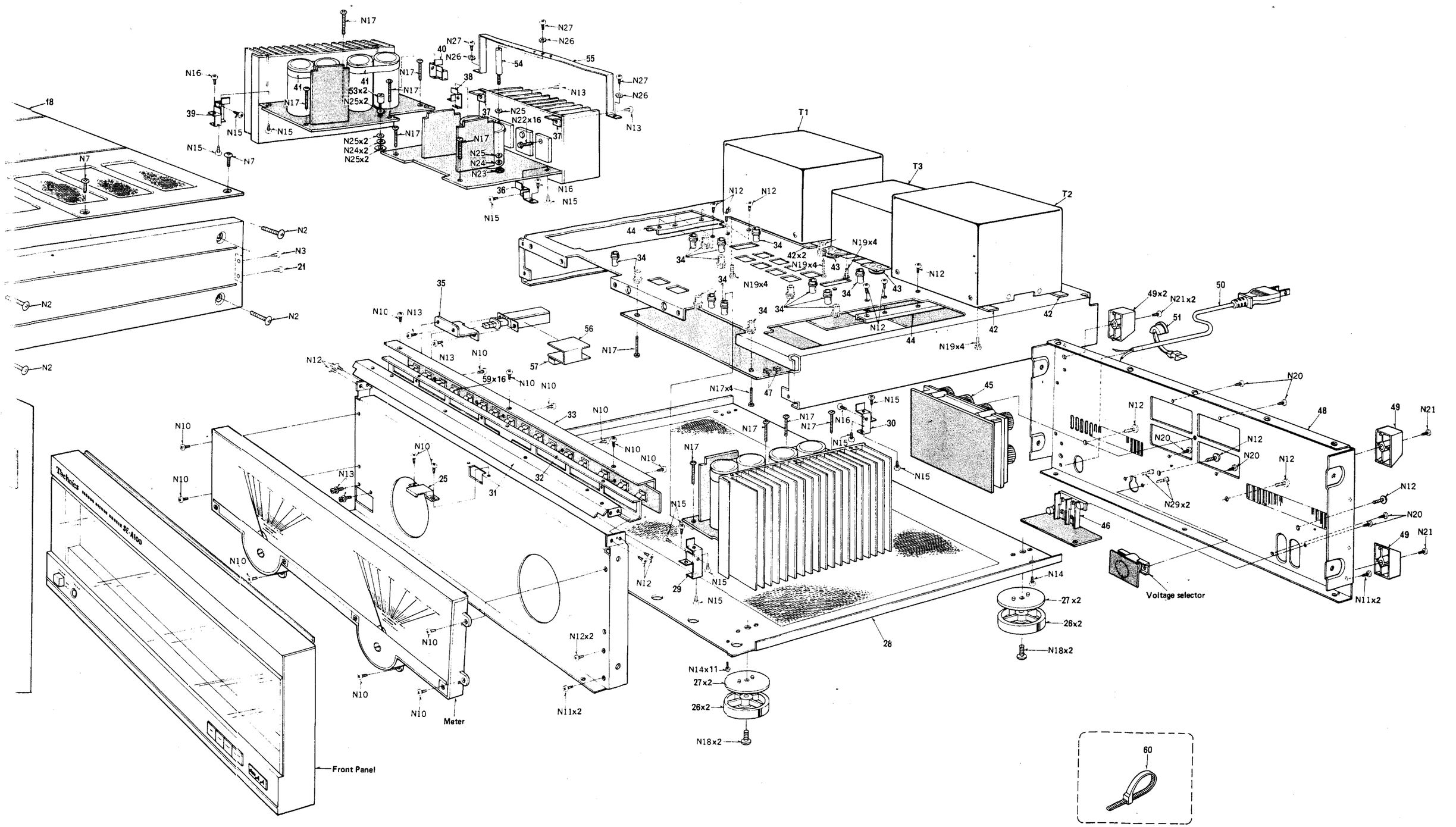
Front Panel View





Ref. No.	Part No.	Description	
ACCESSORIES			
A1	SFDHM03N02	Cord	(1)
A3 ⚠	SJP9215	Plug	(1)
[XA, PA, PE] only			
A4	SQF12638	Instruction Book	(1)
[D, EW, XA, EF, EH, EB, Ei]			
A4 [EGA]	SQF12639	Instruction Book	(1)
A4 [PA, PE]	SQF12640	Instruction Book	(1)
A4 [EK, XL]	SQF12641	Instruction Book	(1)
A5	SQX4651–1	Label (AC Cord)	(1)
[EK, XL, XA, PE]			
A5 [PA]	SQX4653–1	Label (AC Cord)	(1)
A5 [EK]	SQX4361	Label (AC Cord)	(1)
A5	SQX4699–1	Label (AC Cord)	(1)
[D, EF, EH, EB, Ei, EW, EGA]			

Ref. No.	Part No.	Description	
PACKING PARTS			
P1 [EK]	SPG5512	Carton Box	(1)
P1 [EF]	SPG5513	Carton Box	(1)
P1 [Other]	SPG5510	Carton Box	(1)
P2	SPS4688	Pad	(1)
P3	SPS4689	Pad	(1)
P4	SPH219	Sheet	(1)
P5	SPH6279	Sheet	(1)
P6	SPJ15	Polyethylene Bag	(1)
Except [EK]		AC Cord)	
P7	SPB1035	Polyethylene Bag	(1)
		Cord)	



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